

FITC-211F 96d3-2p96

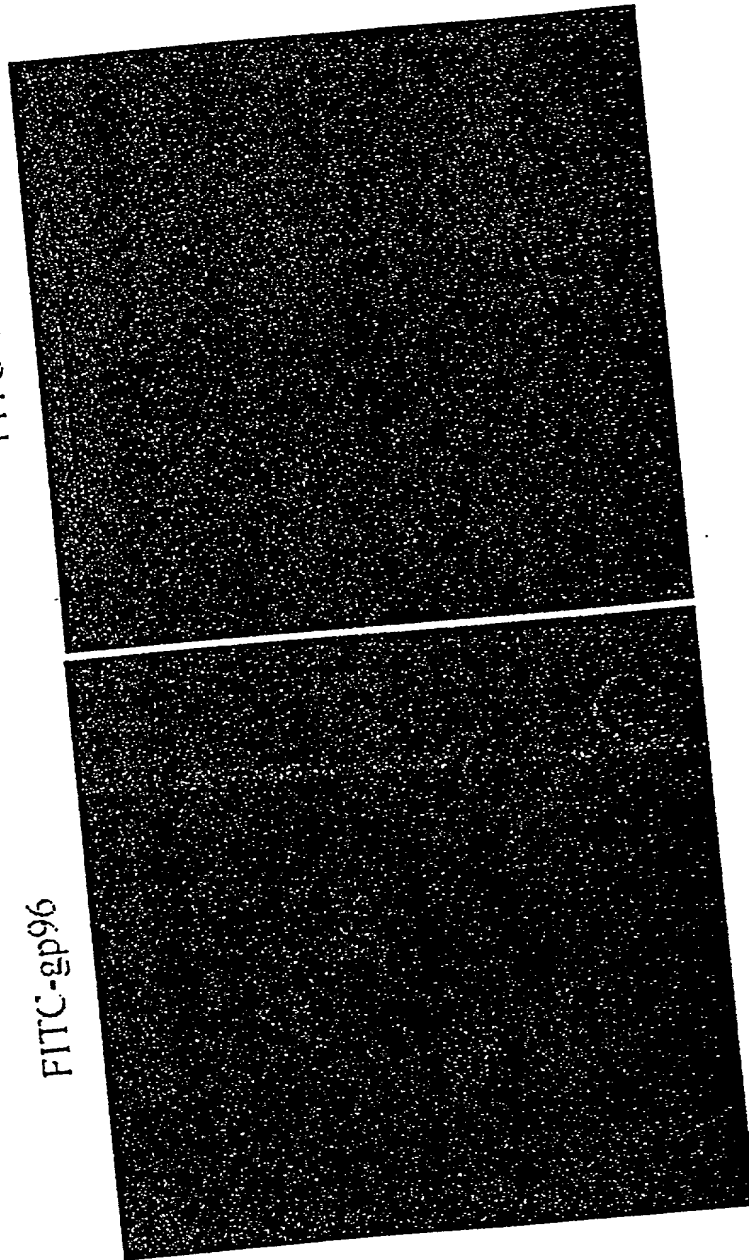


FIG. 1a

Membranes from	RAW264.7		P815
Affinity column	gp96	SA	gp96
212			
116			
83			
51			
35			
28			

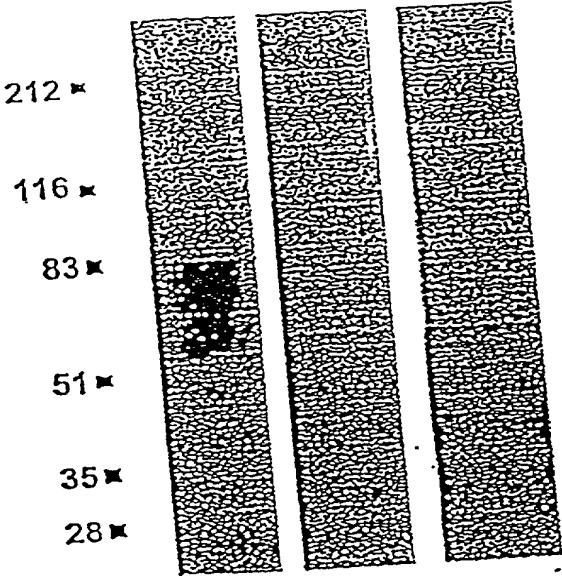


FIG. 1b

	Cells	MO	MO	MO	P815
^{125}I -SASD-gp96	+	+	+	+	+
UV	+	-	+	+	+
2-ME	+	+	-	+	+

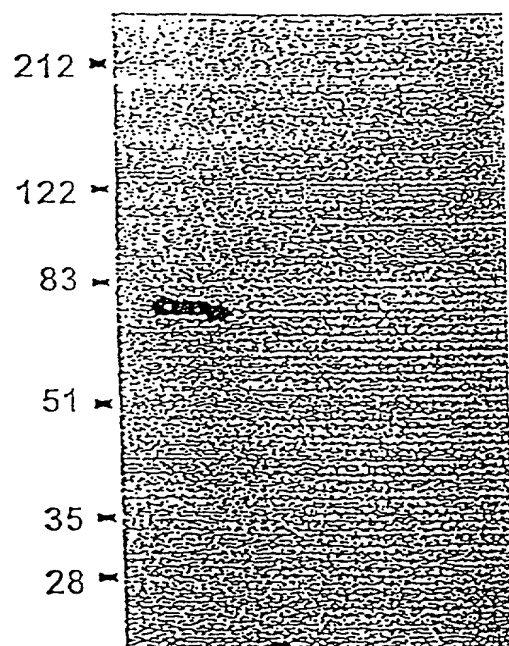


FIG. 1c

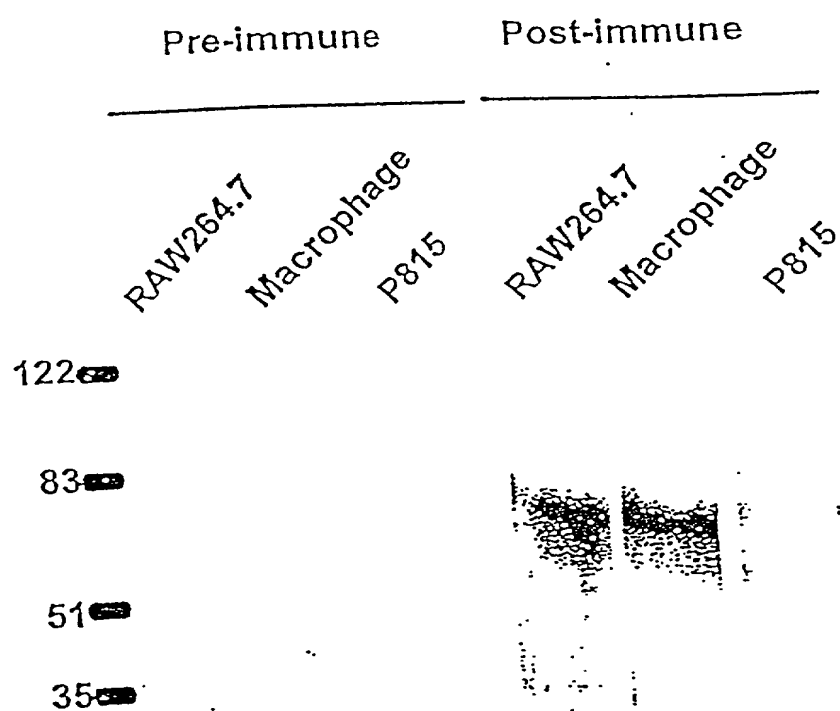


FIG. 2a

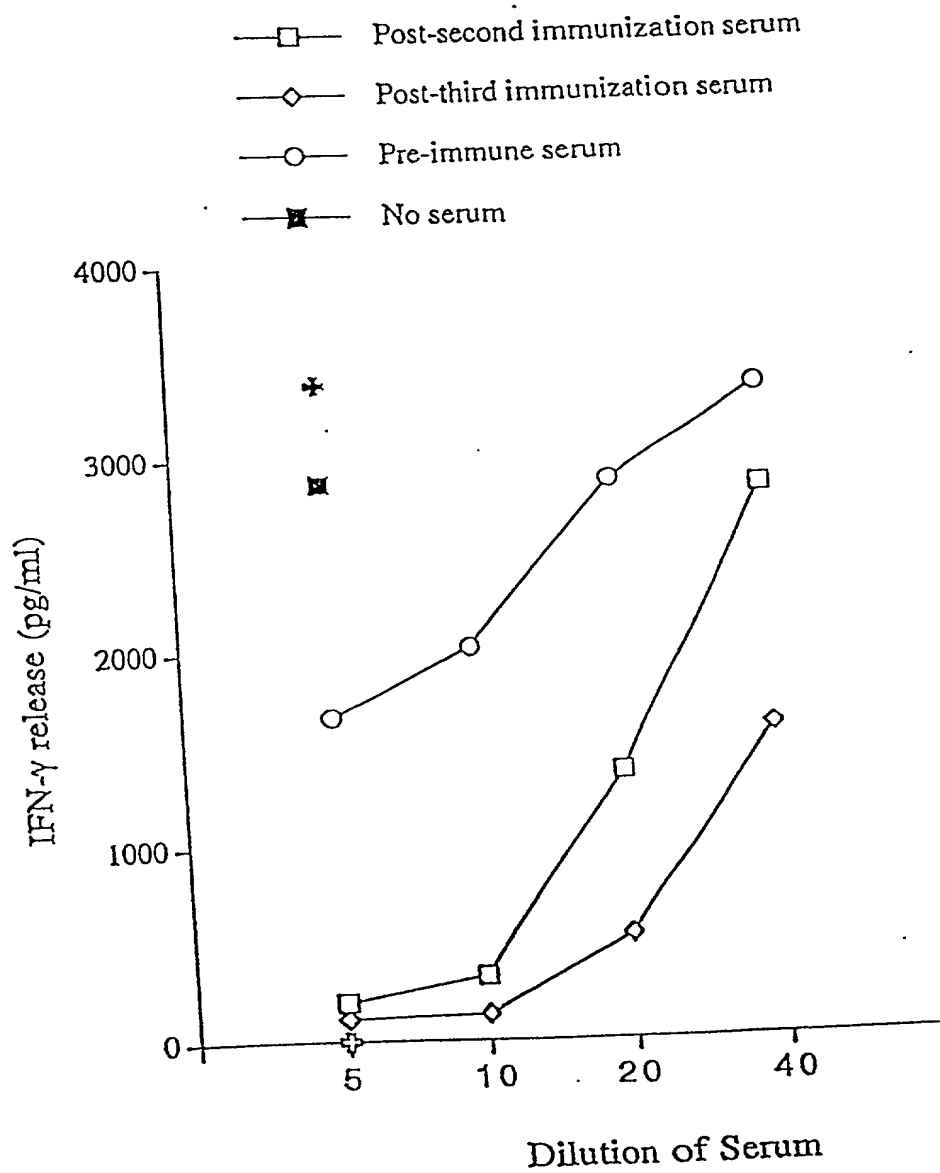


FIG. 2b

Seq #	b	y	+1
G 1	58.1	-	10
G 2	115.1	1095.2	9
A 3	186.2	1038.2	8
L 4	299.3	967.1	7
H 5	436.5	853.9	6
I 6	549.6	716.8	5
Y 7	712.8	603.6	4
H 8	850.0	440.5	3
Q 9	978.1	303.3	2
R 10	-	175.2	1

FIG. 3a

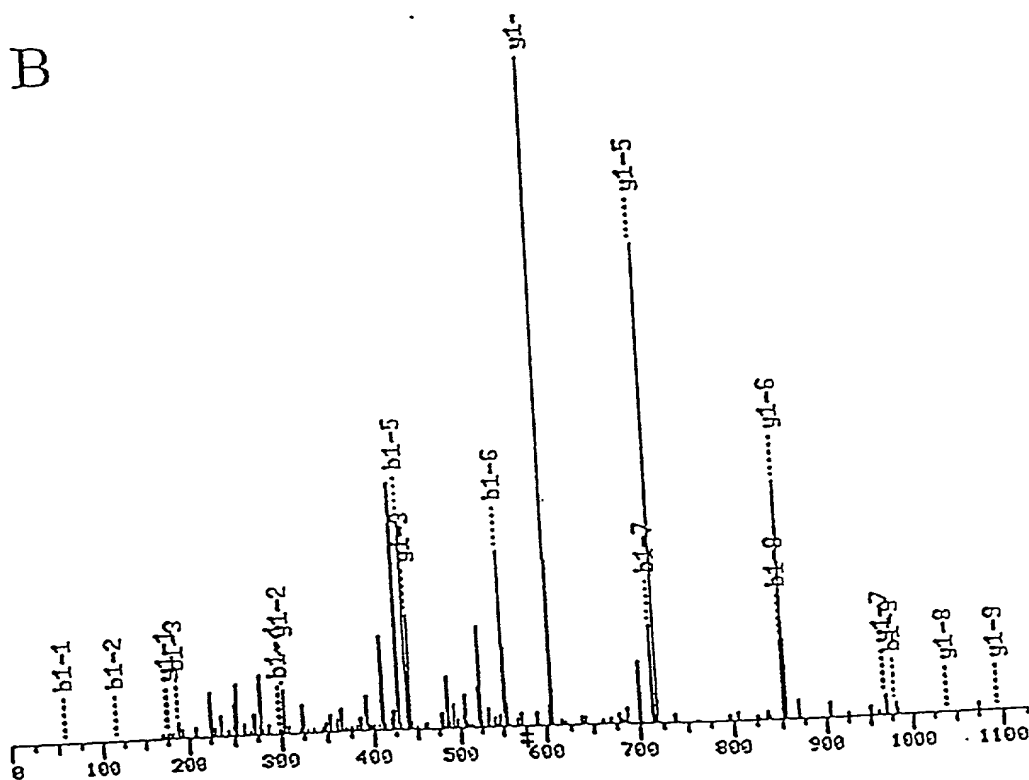


FIG. 3b

Position	MH+	Sequence
509-518	955.0122	SGFSLGSDGK (Seq 10 M:54)
328-337	973.1753	GIALDPAMGK (Seq 10 No:55)
460-469	1152.3010	GGALHIYHQR (Seq 10 No:56)
338-348	1315.5116	VFFTDYGQIPK (Seq 10 No:57)

FIG. 3c

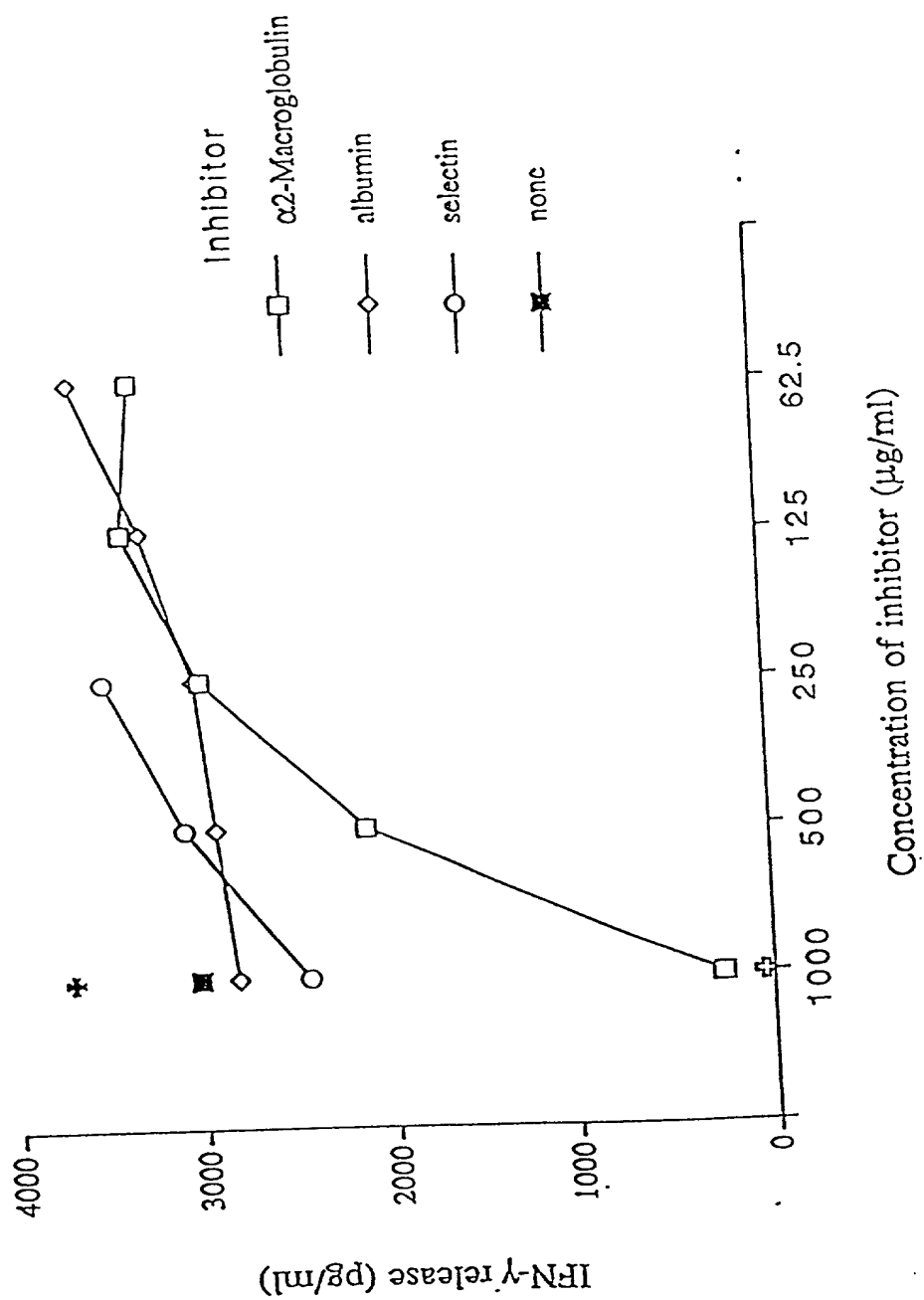


FIG. 4

Table 1. Specific binding of HSPs and α_2 -macroglobulin to primary cultures and cell lines of several histological origins*

Cells	Cell type	Haplotype	**% cells binding with FITC-labeled:				
			α_2 M	gp96	hsp70	hsp90	SA
B16	Melanoma	<i>b</i>	0.1	3.5	6.4	8.0	0.3
CT26	Carcinoma	<i>d</i>	N/D	0.3	3.1	5.5	0.4
YAC-1	Lymphoma	<i>b</i>	0.1	3.1	23.0	5.0	0.2
EL4	T cell thymoma	<i>b</i>	0.1	2.9	3.0	6.6	1.0
Meth A	Sarcoma	<i>d</i>	0.1	0.1	1.5	0.9	0.5
PS-C3H	Fibrosarcoma	<i>k</i>	0.1	0.1	2.0	0.3	0.3
UV6139	Sarcoma	<i>k</i>	11	0.0	0.7	0.2	1.5
P815	Mastocytoma	<i>d</i>	0.1	1.1	1.7	0.7	0.2
Peritoneal cells	Macrophage	<i>d</i>	90	97	82	82	11
BM-DCs	Dendritic cells	<i>b</i> and <i>d</i>	+++ [#]	+++	+++	+++	-
RAW264.7 [†]	Macrophage	<i>d</i>	76	82	85	90	8.0
RAW309Cr.1 [†]	Macrophage	<i>b</i> x <i>d</i>	0.1	0.1	0.1	0.1	0.1

FIG. 5

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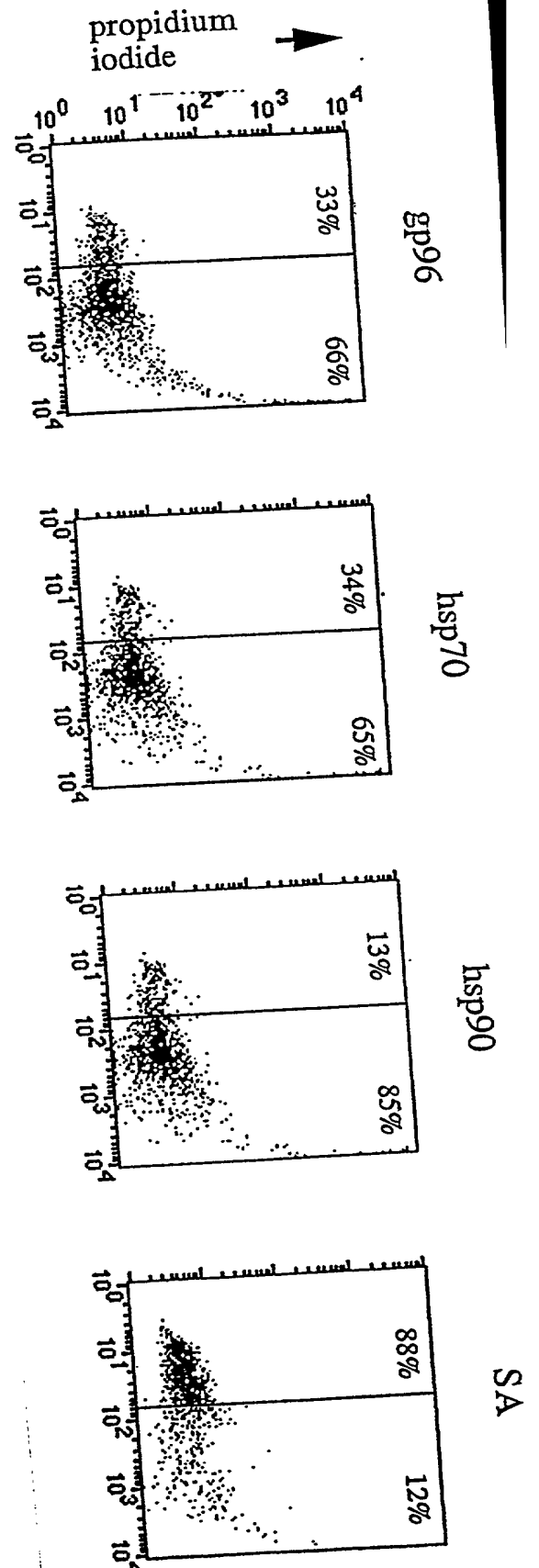


FIG. 6A

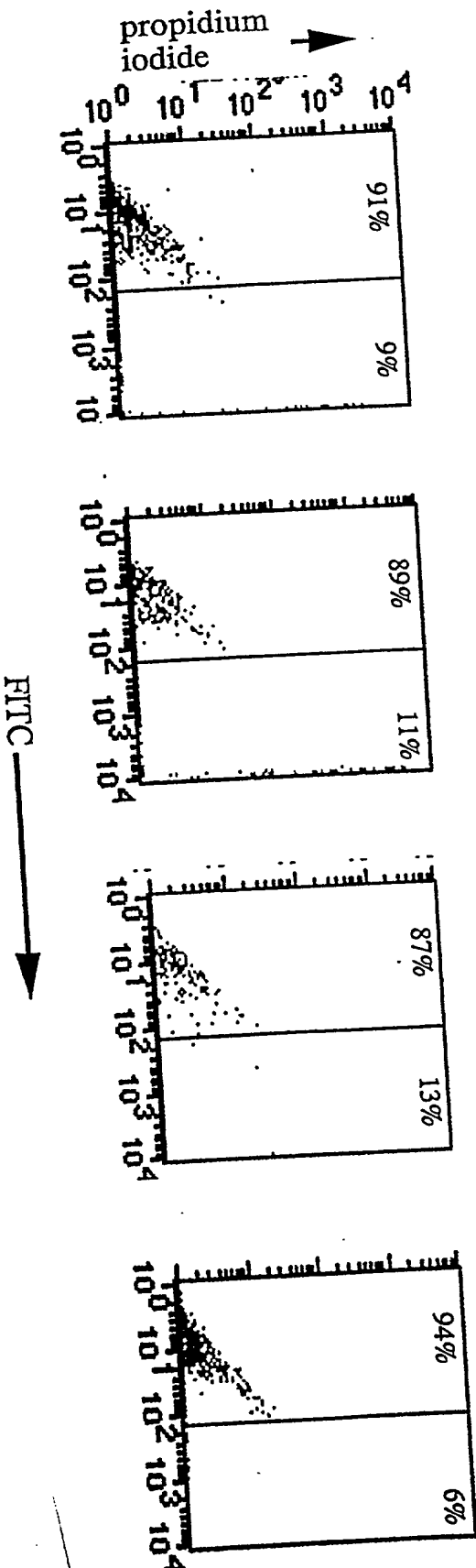


FIG. 6B

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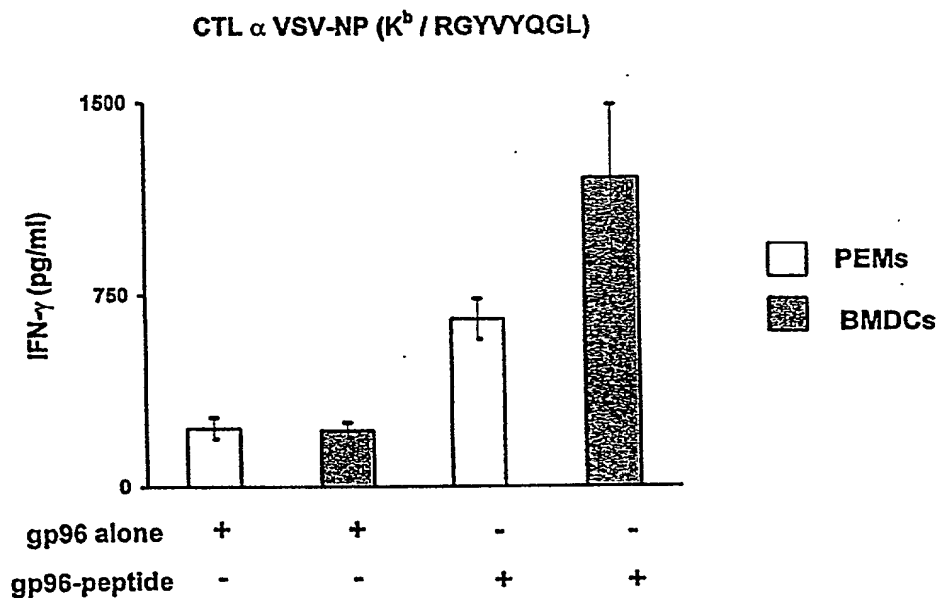


FIG. 7A

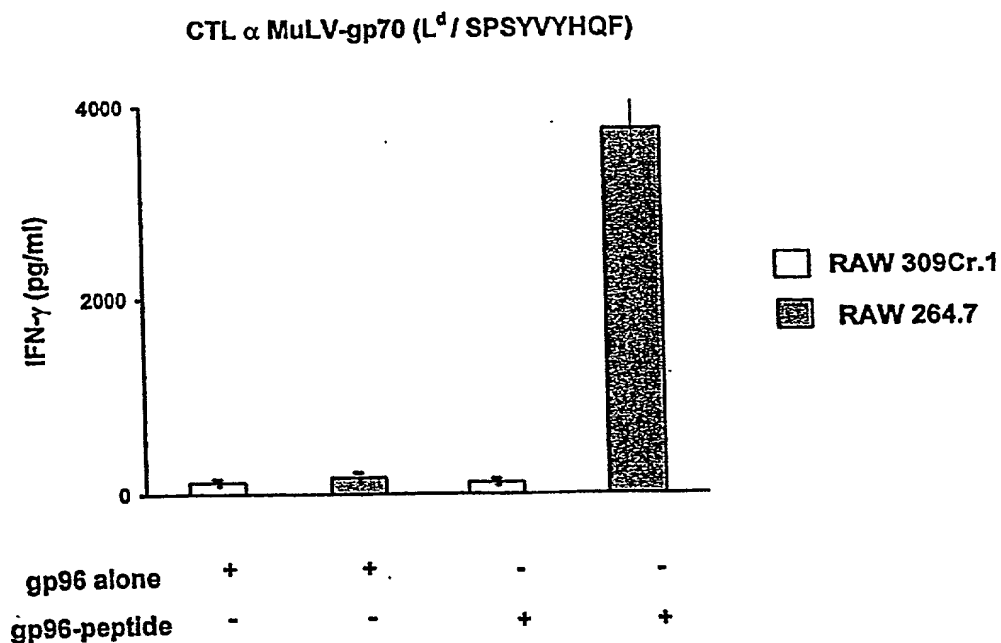


FIG. 7B

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FIG. 8

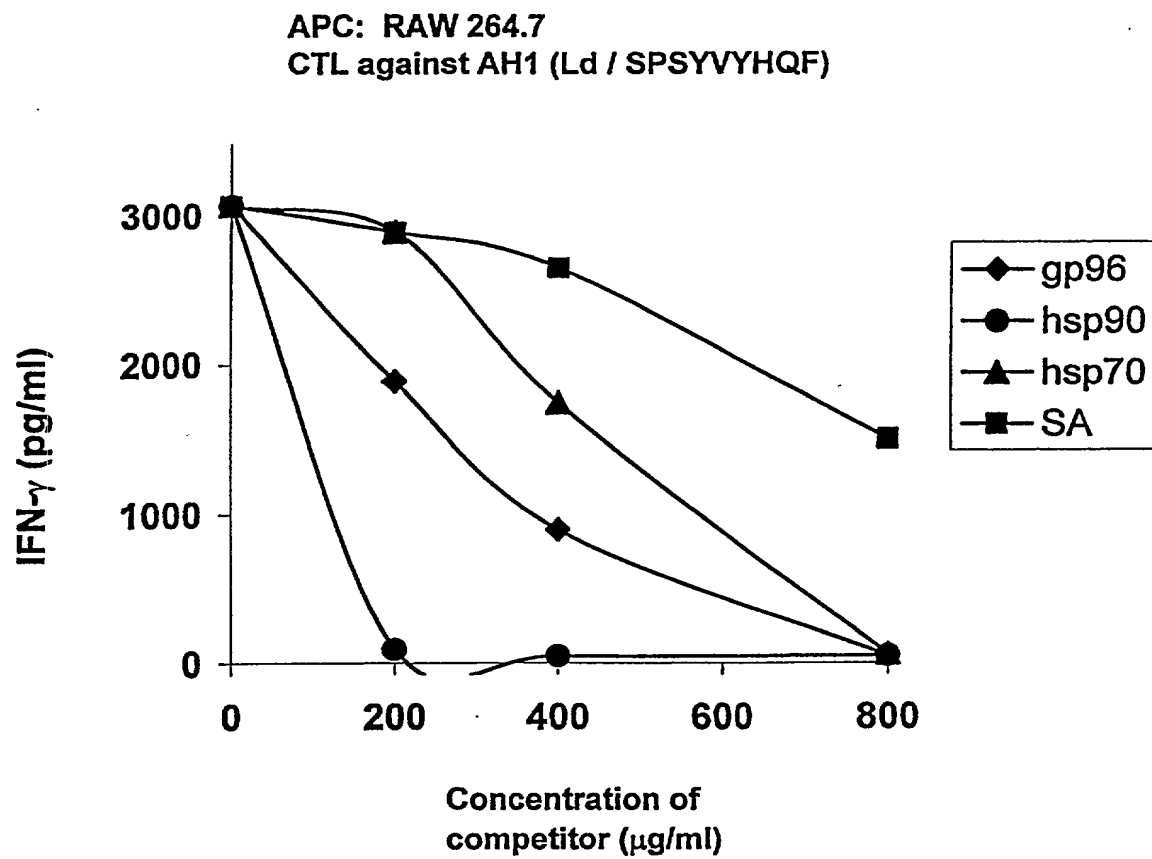


FIG. 9A

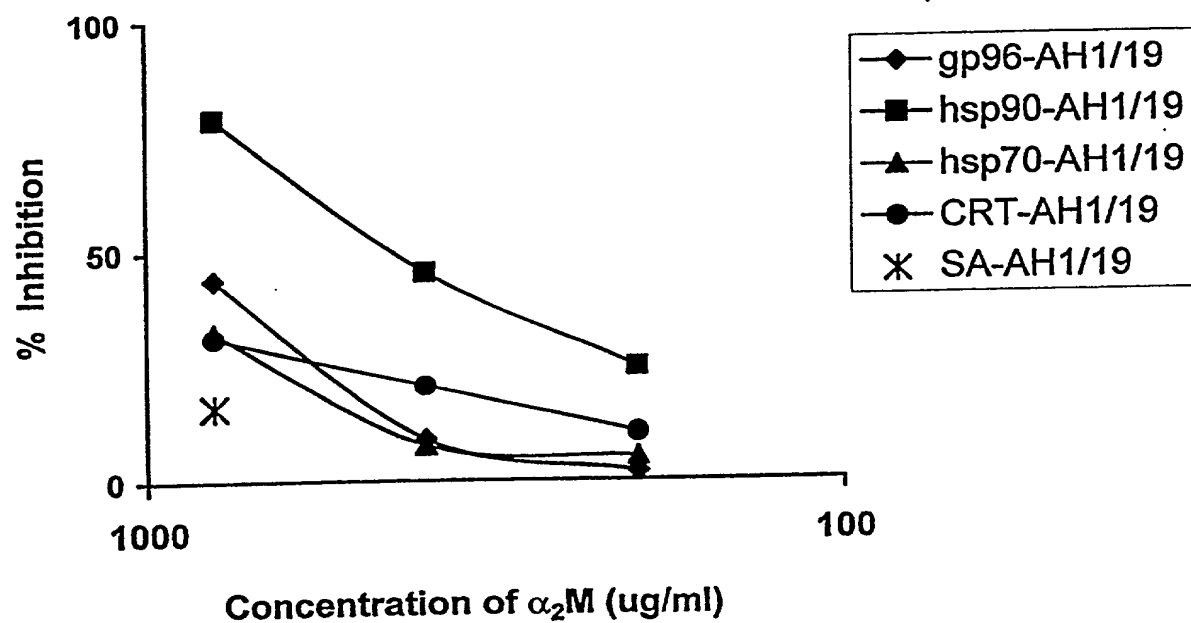


FIG. 9B

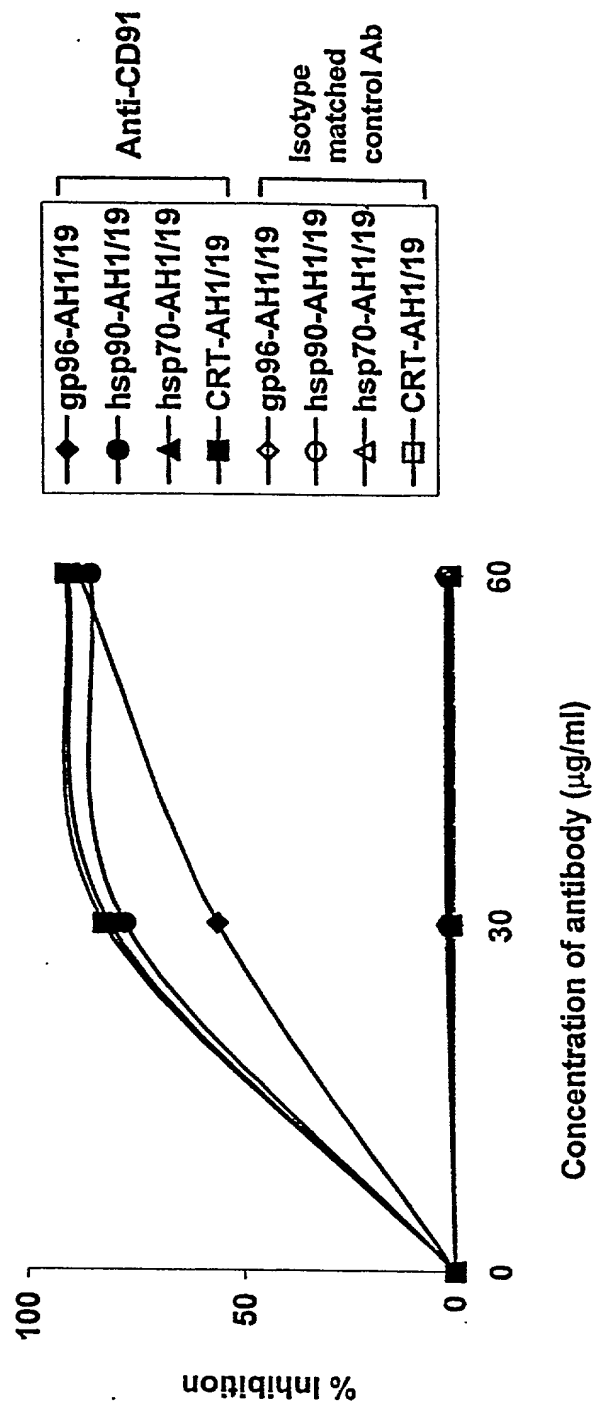


FIG. 9C

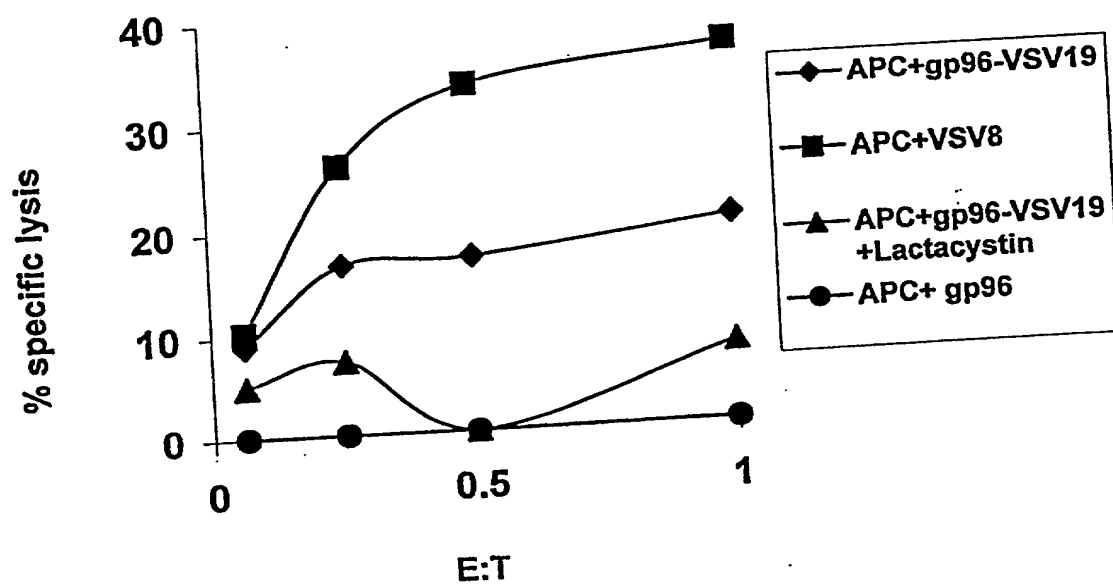


FIG. 10A

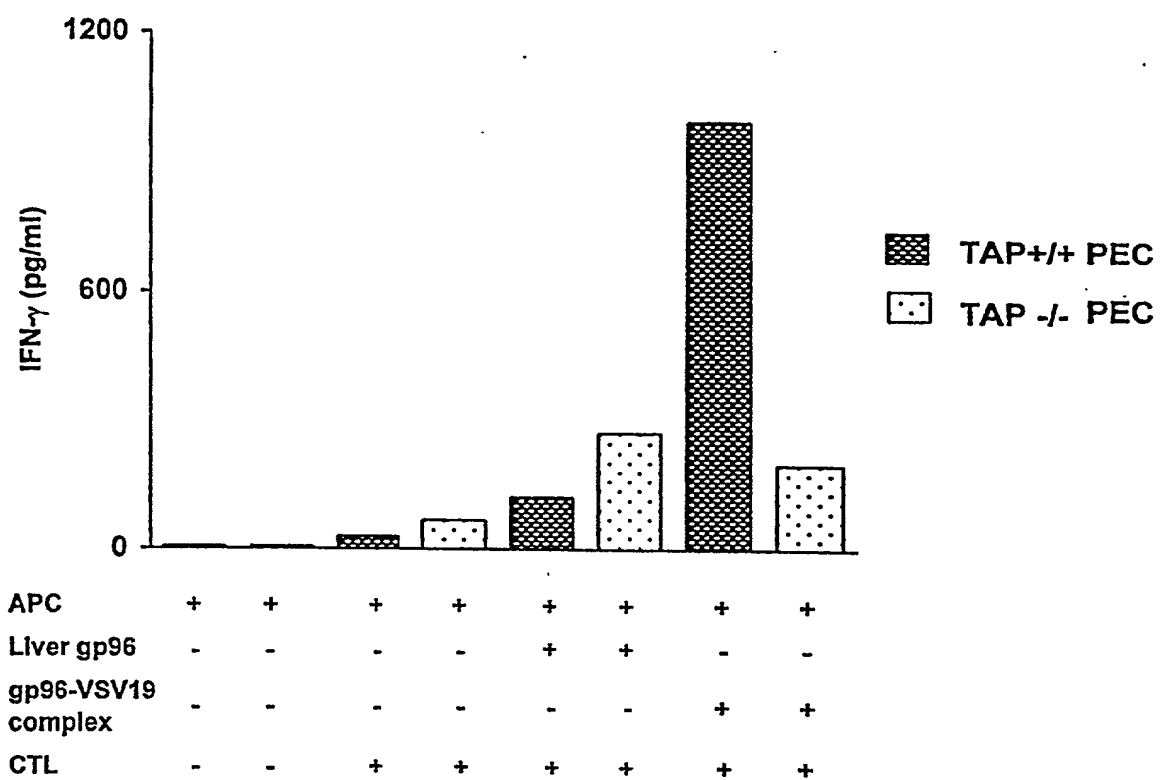


FIG. 10B

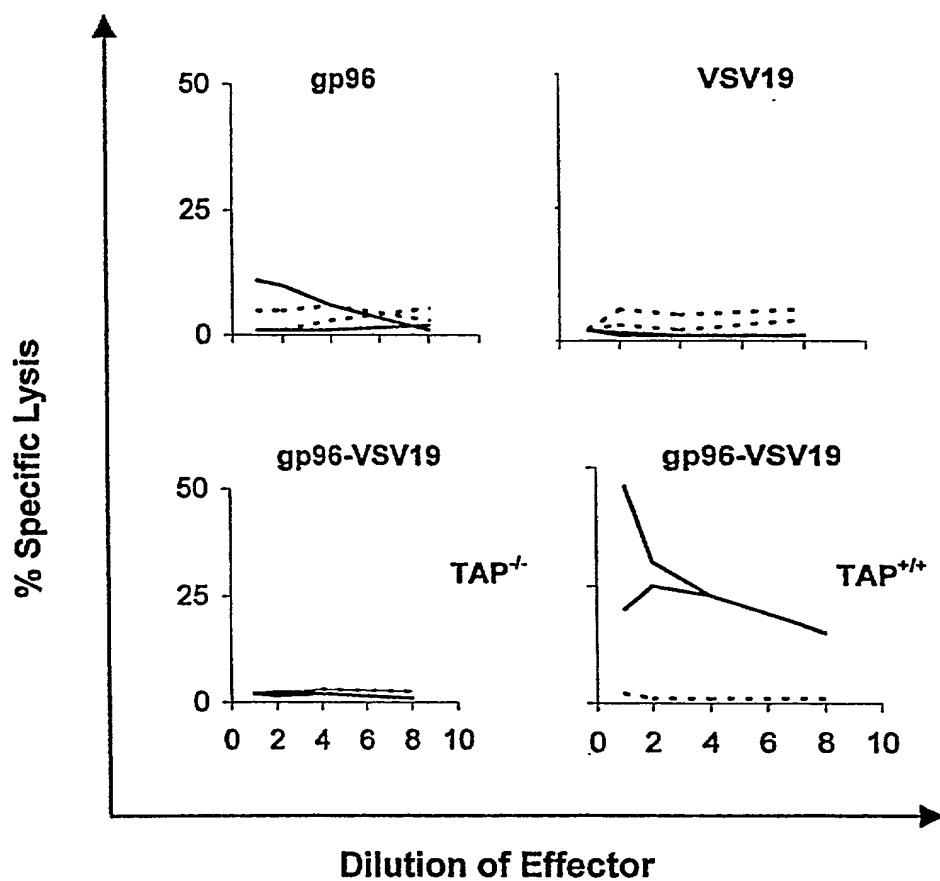


FIG. 10C

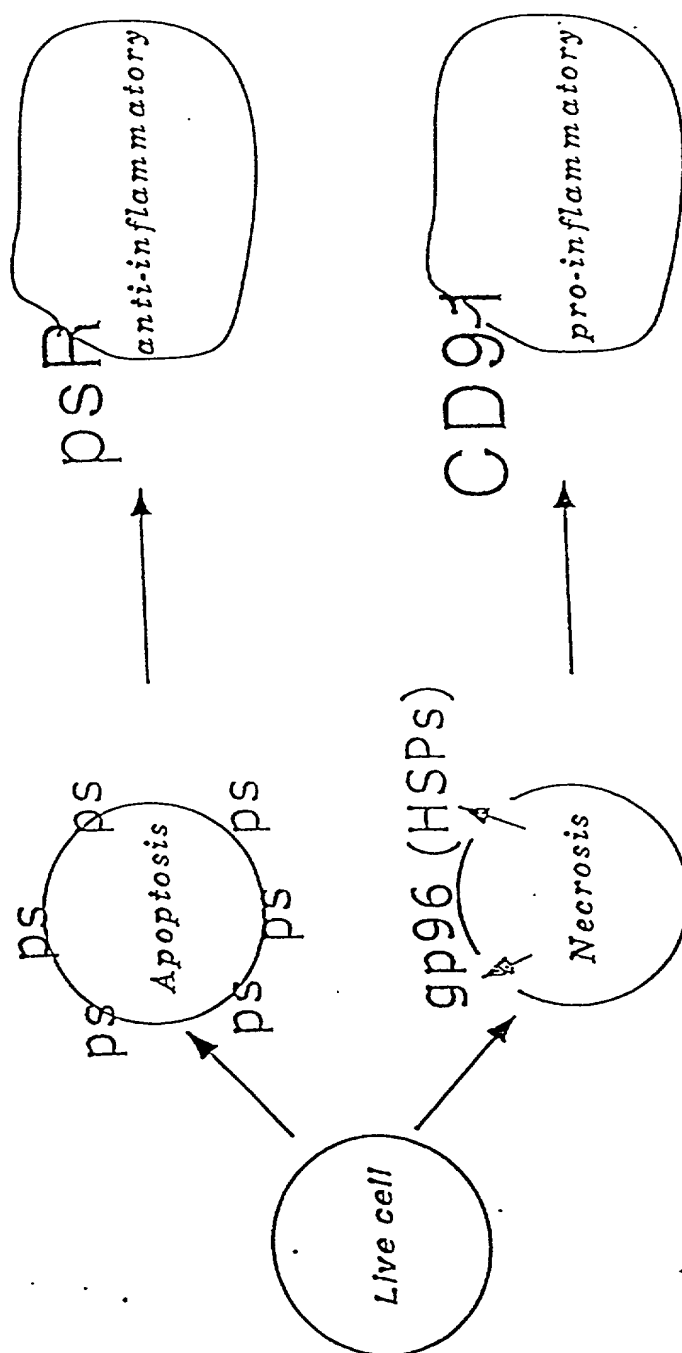


FIG. 11

CGCTGCTCCC	CGCCAGTGCA	CTGAGGAGGC	GGAAACGGGG	GAGCCCCTAG	TGCTCCATCA	60
GGCCCCCTACC	AAGGCACCCC	CATCGGGTCC	ACGCCCCCCA	CCCCCACCC	CGCCTCCTCC	120
CAATTGTGCA	TTTTTGCAGC	CGGAGTCGGC	TCCGAGATGG	GGCTGTGAGC	TTCGCCCTGG	180
GAGGGGGAGA	GGAGCGAGGA	GTAAAGCAGG	GGTGAAGGGT	TCGAATTTGG	GGGCAGGGGG	240
CGCACCCGCG	TCAGCAGGCC	CTTCCCAGGG	GGCTCGGAAC	TGTACCATT	CACCTATGCC	300
CCTGGTTTCG	TTTGCTTAAG	GAAGGATAAG	ATAGAAGAGT	CGGGGAGAGG	AAGATAAAGG	360
GGGACCCCCC	AATTGGGGGG	GGCGAGGACA	AGAAGTAACA	GGACCAGAGG	GTGGGGGCTG	420
CTGTTTGCAT	CGGCCACAC	C ATG CTG ACC CCG CCG	TTG CTG CTG CTC GTG			471
		Met Leu Thr Pro Pro	Leu Leu Leu Leu Val			
		1	5			10
CCG CTG CTT TCA GCT CTG GTC TCC GGG GCC ACT ATG GAT GCC CCT AAA						519
Pro Leu Leu Ser Ala Leu Val Ser Gly Ala Thr Met Asp Ala Pro Lys						
	15		20		25	
ACT TGC AGC CCT AAG CAG TTT GCC TGC AGA GAC CAA ATC ACC TGT ATC						567
Thr Cys Ser Pro Lys Gln Phe Ala Cys Arg Asp Gln Ile Thr Cys Ile						
	30		35		40	
TCA AAG GGC TGG CGG TGT GAC GGT GAA AGA GAT TGC CCC GAC GGC TCT						615
Ser Lys Gly Trp Arg Cys Asp Gly Glu Arg Asp Cys Pro Asp Gly Ser						
	45		50		55	
GAT GAA GCC CCT GAG ATC TGT CCA CAG AGT AAA GCC CAG AGA TGC CCG						663
Asp Glu Ala Pro Glu Ile Cys Pro Gln Ser Lys Ala Gln Arg Cys Pro						
	60		65		70	
CCA AAT GAG CAC AGT TGT CTG GGG ACT GAG CTA TGT GTC CCC ATG TCT						711
Pro Asn Glu His Ser Cys Leu Gly Thr Glu Leu Cys Val Pro Met Ser						
	75		80		85	90
CGT CTC TGC AAC GGG ATC CAG GAC TGC ATG GAT GGC TCA GAC GAG GGT						759
Arg Leu Cys Asn Gly Ile Gln Asp Cys Met Asp Gly Ser Asp Glu Gly						
	95		100		105	
GCT CAC TGC CGA GAG CTC CGA GCC AAC TGT TCT CGA ATG GGT TGT CAA						807
Ala His Cys Arg Glu Leu Arg Ala Asn Cys Ser Arg Met Gly Cys Gln						
	110		115		120	
CAC CAT TGT GTA CCT ACA CCC AGT GGG CCC ACG TGC TAC TGT AAC AGC						855
His His Cys Val Pro Thr Pro Ser Gly Pro Thr Cys Tyr Cys Asn Ser						
	125		130		135	
AGC TTC CAG CTC GAG GCA GAT GGC AAG ACG TGC AAA GAT TTT GAC GAG						903
Ser Phe Gln Leu Glu Ala Asp Gly Lys Thr Cys Lys Asp Phe Asp Glu						
	140		145		150	
TGT TCC GTG TAT GGC ACC TGC AGC CAG CTT TGC ACC AAC ACA GAT GGC						951
Cys Ser Val Tyr Gly Thr Cys Ser Gln Leu Cys Thr Asn Thr Asp Gly						
	155		160		165	170
TCC TTC ACA TGT GGC TGT GTT GAA GGC TAC CTG CTG CAA CCG GAC AAC						999
Ser Phe Thr Cys Gly Cys Val Glu Gly Tyr Leu Leu Gln Pro Asp Asn						
	175		180		185	
CGC TCC TGC AAG GCC AAG AAT GAG CCA GTA GAT CGG CCG CCA GTG CTA						1047
Arg Ser Cys Lys Ala Lys Asn Glu Pro Val Asp Arg Pro Pro Val Leu						
	190		195		200	

FIG. 12A

CTG	ATT	GCC	AAC	TCT	CAG	AAC	ATC	CTA	GCT	ACG	TAC	CTG	AGT	GGG	GCC	1095
Leu	Ile	Ala	Asn	Ser	Gln	Asn	Ile	Leu	Ala	Thr	Tyr	Leu	Ser	Gly	Ala	
		205					210					215				
CAA	GTG	TCT	ACC	ATC	ACA	CCC	ACC	AGC	ACC	CGA	CAA	ACC	ACG	GCC	ATG	1143
Gln	Val	Ser	Thr	Ile	Thr	Pro	Thr	Ser	Thr	Arg	Gln	Thr	Thr	Ala	Met	
	220					225					230					
GAC	TTC	AGT	TAT	GCC	AAT	GAG	ACC	GTA	TGC	TGG	GTG	CAC	GTT	GGG	GAC	1191
Asp	Phe	Ser	Tyr	Ala	Asn	Glu	Thr	Val	Cys	Trp	Val	His	Val	Gly	Asp	
235					240				245					250		
AGT	GCT	GCC	CAG	ACA	CAG	CTC	AAG	TGT	GCC	CGG	ATG	CCT	GGC	CTG	AAG	1239
Ser	Ala	Ala	Gln	Thr	Gln	Leu	Lys	Cys	Ala	Arg	Met	Pro	Gly	Leu	Lys	
			255						260					265		
GGC	TTT	GTG	GAT	GAG	CAT	ACC	ATC	AAC	ATC	TCC	CTC	AGC	CTG	CAC	CAC	1287
Gly	Phe	Val	Asp	Glu	His	Thr	Ile	Asn	Ile	Ser	Leu	Ser	Leu	His	His	
		270						275					280			
GTG	GAG	CAG	ATG	GCA	ATC	GAC	TGG	CTG	ACG	GGA	AAC	TTC	TAC	TTT	GTC	1335
Val	Glu	Gln	Met	Ala	Ile	Asp	Trp	Leu	Thr	Gly	Asn	Phe	Tyr	Phe	Val	
	285						290					295				
GAC	GAC	ATT	GAC	GAC	AGG	ATC	TTT	GTC	TGT	AAC	CGA	AAC	GGG	GAC	ACC	1383
Asp	Asp	Ile	Asp	Asp	Arg	Ile	Phe	Val	Cys	Asn	Arg	Asn	Gly	Asp	Thr	
	300					305					310					
TGT	GTC	ACT	CTG	CTG	GAC	CTG	GAA	CTC	TAC	AAC	CCC	AAA	GGC	ATC	GCC	1431
Cys	Val	Thr	Leu	Leu	Asp	Leu	Glu	Leu	Tyr	Asn	Pro	Lys	Gly	Ile	Ala	
315					320					325					330	
TTG	GAC	CCC	GCC	ATG	GGG	AAG	GTG	TTC	TTC	ACT	GAC	TAC	GGG	CAG	ATC	1479
Leu	Asp	Pro	Ala	Met	Gly	Lys	Val	Phe	Phe	Thr	Asp	Tyr	Gly	Gln	Ile	
			335						340					345		
CCA	AAG	GTG	GAG	CGC	TGT	GAC	ATG	GAT	GGA	CAG	AAC	CGC	ACC	AAG	CTG	1527
Pro	Lys	Val	Glu	Arg	Cys	Asp	Met	Asp	Gly	Gln	Asn	Arg	Thr	Lys	Leu	
		350						355					360			
GTG	GAT	AGC	AAG	ATC	GTG	TTT	CCA	CAC	GGC	ATC	ACC	CTG	GAC	CTG	GTC	1575
Val	Asp	Ser	Lys	Ile	Val	Phe	Pro	His	Gly	Ile	Thr	Leu	Asp	Leu	Val	
	365					370						375				
AGC	CGC	CTC	GTC	TAC	TGG	GCG	GAC	GCC	TAC	CTA	GAC	TAC	ATC	GAG	GTG	1623
Ser	Arg	Leu	Val	Tyr	Trp	Ala	Asp	Ala	Tyr	Leu	Asp	Tyr	Ile	Glu	Val	
	380					385					390					
GTA	GAC	TAC	GAA	GGG	AAG	GGT	CGG	CAG	ACC	ATC	ATC	CAA	GGC	ATC	CTG	1671
Val	Asp	Tyr	Glu	Gly	Lys	Gly	Arg	Gln	Thr	Ile	Ile	Gln	Gly	Ile	Leu	
395					400				405					410		
ATC	GAG	CAC	CTG	TAC	GGC	CTG	ACC	GTG	TTT	GAG	AAC	TAT	CTC	TAC	GCC	1719
Ile	Glu	His	Leu	Tyr	Gly	Leu	Thr	Val	Phe	Glu	Asn	Tyr	Leu	Tyr	Ala	
			415						420					425		
ACC	AAC	TCG	GAC	AAT	GCC	AAC	ACG	CAG	CAG	AAG	ACG	AGC	GTG	ATC	CGA	1767
Thr	Asn	Ser	Asp	Asn	Ala	Asn	Thr	Gln	Gln	Lys	Thr	Ser	Val	Ile	Arg	
			430					435					440			

FIG. 12A

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GTG AAC CGG TTC AAC AGT ACT GAG TAC CAG GTC GTC ACC CGT GTG GAC	1815
Val Asn Arg Phe Asn Ser Thr Glu Tyr Gln Val Val Thr Arg Val Asp	
445 450 455	
AAG GGT GGT GCC CTG CAT ATC TAC CAC CAG CGA CGC CAG CCC CGA GTG	1863
Lys Gly Gly Ala Leu His Ile Tyr His Gln Arg Arg Gln Pro Arg Val	
460 465 470	
CGG AGT CAC GCC TGT GAG AAT GAC CAG TAC GGG AAG CCA GGT GGC TGC	1911
Arg Ser His Ala Cys Glu Asn Asp Gln Tyr Gly Lys Pro Gly Gly Cys	
475 480 485 490	
TCC GAC ATC TGC CTC CTG GCC AAC AGT CAC AAG GCA AGG ACC TGC AGG	1959
Ser Asp Ile Cys Leu Leu Ala Asn Ser His Lys Ala Arg Thr Cys Arg	
495 500 505	
TGC AGG TCT GGC TTC AGC CTG GGA AGT GAT GGG AAG TCT TGT AAG AAA	2007
Cys Arg Ser Gly Phe Ser Leu Gly Ser Asp Gly Lys Ser Cys Lys Lys	
510 515 520	
CCT GAA CAT GAG CTG TTC CTC GTG TAT GGC AAG GGC CGA CCA GGC ATC	2055
Pro Glu His Glu Leu Phe Leu Val Tyr Gly Lys Gly Arg Pro Gly Ile	
525 530 535	
ATT AGA GGC ATG GAC ATG GGG GCC AAG GTC CCA GAT GAG CAC ATG ATC	2103
Ile Arg Gly Met Asp Met Gly Ala Lys Val Pro Asp Glu His Met Ile	
540 545 550	
CCC ATC GAG AAC CTT ATG AAT CCA CGC GCT CTG GAC TTC CAC GCC GAG	2151
Pro Ile Glu Asn Leu Met Asn Pro Arg Ala Leu Asp Phe His Ala Glu	
555 560 565 570	
ACC GGC TTC ATC TAC TTT GCT GAC ACC ACC AGC TAC CTC ATT GGC CGC	2199
Thr Gly Phe Ile Tyr Phe Ala Asp Thr Thr Ser Tyr Leu Ile Gly Arg	
575 580 585	
CAG AAA ATT GAT GGC ACG GAG AGA GAG ACT ATC CTG AAG GAT GGC ATC	2247
Gln Lys Ile Asp Gly Thr Glu Arg Glu Thr Ile Leu Lys Asp Gly Ile	
590 595 600	
CAC AAT GTG GAG GGC GTA GCC GTG GAC TGG ATG GGA GAC AAT CTT TAC	2295
His Asn Val Glu Gly Val Ala Val Asp Trp Met Gly Asp Asn Leu Tyr	
605 610 615	
TGG ACT GAT GAT GGC CCC AAG AAG ACC ATT AGT GTG GCC AGG CTG GAG	2343
Trp Thr Asp Asp Gly Pro Lys Lys Thr Ile Ser Val Ala Arg Leu Glu	
620 625 630	
AAA GCC GCT CAG ACC CGG AAG ACT CTA ATT GAG GGC AAG ATG ACA CAC	2391
Lys Ala Ala Gln Thr Arg Lys Thr Leu Ile Glu Gly Lys Met Thr His	
635 640 645 650	
CCC AGG GCC ATT GTA GTG GAT CCA CTC AAT GGG TGG ATG TAC TGG ACA	2439
Pro Arg Ala Ile Val Val Asp Pro Leu Asn Gly Trp Met Tyr Trp Thr	
655 660 665	
GAC TGG GAG GAG GAC CCC AAG GAC AGT CGG CGA GGG CGG CTC GAG AGG	2487
Asp Trp Glu Glu Asp Pro Lys Asp Ser Arg Arg Gly Arg Leu Glu Arg	
670 675 680	

FIG. 12A

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GCT	TGG	ATG	GAC	GGC	TCA	CAC	CGA	GAT	ATC	TTT	GTC	ACC	TCC	AAG	ACA	2535
Ala	Trp	Met	Asp	Gly	Ser	His	Arg	Asp	Ile	Phe	Val	Thr	Ser	Lys	Thr	
	685						690					695				
GTG	CTT	TGG	CCC	AAT	GGG	CTA	AGC	CTG	GAT	ATC	CCA	GCC	GGA	CGC	CTC	2583
Val	Leu	Trp	Pro	Asn	Gly	Leu	Ser	Leu	Asp	Ile	Pro	Ala	Gly	Arg	Leu	
	700					705					710					
TAC	TGG	GTG	GAT	GCC	TTC	TAT	GAC	CGA	ATT	GAG	ACC	ATA	CTG	CTC	AAT	2631
Tyr	Trp	Val	Asp	Ala	Phe	Tyr	Asp	Arg	Ile	Glu	Thr	Ile	Leu	Leu	Asn	
715					720					725					730	
GGC	ACA	GAC	CGG	AAG	ATT	GTA	TAT	GAG	GGT	CCT	GAA	CTG	AAT	CAT	GCC	2679
Gly	Thr	Asp	Arg	Lys	Ile	Val	Tyr	Glu	Gly	Pro	Glu	Leu	Asn	His	Ala	
				735					740						745	
TTC	GGC	CTG	TGT	CAC	CAT	GGC	AAC	TAC	CTC	TTT	TGG	ACC	GAG	TAC	CGG	2727
Phe	Gly	Leu	Cys	His	His	Gly	Asn	Tyr	Leu	Phe	Trp	Thr	Glu	Tyr	Arg	
			750					755						760		
AGC	GGC	AGC	GTC	TAC	CGC	TTG	GAA	CGG	GGC	GTG	GCA	GGC	GCA	CCG	CCC	2775
Ser	Gly	Ser	Val	Tyr	Arg	Leu	Glu	Arg	Gly	Val	Ala	Gly	Ala	Pro	Pro	
		765					770					775				
ACT	GTG	ACC	CTT	CTG	CGC	AGC	GAG	AGA	CCG	CCT	ATC	TTT	GAG	ATC	CGA	2823
Thr	Val	Thr	Leu	Leu	Arg	Ser	Glu	Arg	Pro	Pro	Ile	Phe	Glu	Ile	Arg	
	780					785					790					
ATG	TAC	GAC	GCG	CAC	GAG	CAG	CAA	GTG	GGT	ACC	AAC	AAA	TGC	CGG	GTA	2871
Met	Tyr	Asp	Ala	His	Glu	Gln	Gln	Val	Gly	Thr	Asn	Lys	Cys	Arg	Val	
795					800					805					810	
AAT	AAC	GGA	GGC	TGC	AGC	AGC	CTG	TGC	CTC	GCC	ACC	CCC	GGG	AGC	CGC	2919
Asn	Asn	Gly	Gly	Cys	Ser	Ser	Leu	Cys	Leu	Ala	Thr	Pro	Gly	Ser	Arg	
				815					820					825		
CAG	TGT	GCC	TGT	GCC	GAG	GAC	CAG	GTG	TTG	GAC	ACA	GAT	GGT	GTC	ACC	2967
Gln	Cys	Ala	Cys	Ala	Glu	Asp	Gln	Val	Leu	Asp	Thr	Asp	Gly	Val	Thr	
			830					835					840			
TGC	TTG	GCG	AAC	CCA	TCC	TAC	GTG	CCC	CCA	CCC	CAG	TGC	CAG	CCG	GGC	3015
Cys	Leu	Ala	Asn	Pro	Ser	Tyr	Val	Pro	Pro	Pro	Gln	Cys	Gln	Pro	Gly	
		845					850					855				
CAG	TTT	GCC	TGT	GCC	AAC	AAC	CGC	TGC	ATC	CAG	GAG	CGC	TGG	AAG	TGT	3063
Gln	Phe	Ala	Cys	Ala	Asn	Asn	Arg	Cys	Ile	Gln	Glu	Arg	Trp	Lys	Cys	
	860					865					870					
GAC	GGA	GAC	AAC	GAC	TGT	CTG	GAC	AAC	AGC	GAT	GAG	GCC	CCA	GCA	CTG	3111
Asp	Gly	Asp	Asn	Asp	Cys	Leu	Asp	Asn	Ser	Asp	Glu	Ala	Pro	Ala	Leu	
875					880					885					890	
TGC	CAT	CAA	CAC	ACC	TGT	CCC	TCG	GAC	CGA	TTC	AAG	TGT	GAG	AAC	AAC	3159
Cys	His	Gln	His	Thr	Cys	Pro	Ser	Asp	Arg	Phe	Lys	Cys	Glu	Asn	Asn	
				895					900					905		
CGG	TGT	ATC	CCC	AAC	CGC	TGG	CTC	TGT	GAT	GGG	GAT	AAT	GAT	TGT	GGC	3207
Arg	Cys	Ile	Pro	Asn	Arg	Trp	Leu	Cys	Asp	Gly	Asp	Asn	Asp	Cys	Gly	
			910					915					920			

FIG. 12A

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AAC AGC GAG GAC GAA TCC AAT GCC ACG TGC TCA GCC CGC ACC TGT CCA	3255
Asn Ser Glu Asp Glu Ser Asn Ala Thr Cys Ser Ala Arg Thr Cys Pro	
925 930 935	
CCC AAC CAG TTC TCC TGT GCC AGT GGC CGA TGC ATT CCT ATC TCA TGG	3303
Pro Asn Gln Phe Ser Cys Ala Ser Gly Arg Cys Ile Pro Ile Ser Trp	
940 945 950	
ACC TGT GAT CTG GAT GAT GAC TGT GGG GAC CGG TCC GAT GAG TCA GCC	3351
Thr Cys Asp Leu Asp Asp Asp Cys Gly Asp Arg Ser Asp Glu Ser Ala	
955 960 965 970	
TCA TGC GCC TAC CCC ACC TGC TTC CCC CTG ACT CAA TTT ACC TGC AAC	3399
Ser Cys Ala Tyr Pro Thr Cys Phe Pro Leu Thr Gln Phe Thr Cys Asn	
975 980 985	
AAT GGC AGA TGT ATT AAC ATC AAC TGG CGG TGT GAC AAC GAC AAT GAC	3447
Asn Gly Arg Cys Ile Asn Ile Asn Trp Arg Cys Asp Asn Asp Asn Asp	
990 995 1000	
TGT GGG GAC AAC AGC GAC GAA GCC GGC TGC AGT CAC TCC TGC TCC AGT	3495
Cys Gly Asp Asn Ser Asp Glu Ala Gly Cys Ser His Ser Cys Ser Ser	
1005 1010 1015	
ACC CAG TTC AAG TGC AAC AGT GGC AGA TGC ATC CCC GAG CAC TGG ACG	3543
Thr Gln Phe Lys Cys Asn Ser Gly Arg Cys Ile Pro Glu His Trp Thr	
1020 1025 1030	
TGT GAT GGG GAC AAT GAT TGT GGG GAC TAC AGC GAC GAG ACA CAC GCC	3591
Cys Asp Gly Asp Asn Asp Cys Gly Asp Tyr Ser Asp Glu Thr His Ala	
1035 1040 1045 1050	
AAC TGT ACC AAC CAG GCT ACA AGA CCT CCT GGT GGC TGC CAC TCG GAT	3639
Asn Cys Thr Asn Gln Ala Thr Arg Pro Pro Gly Gly Cys His Ser Asp	
1055 1060 1065	
GAG TTC CAG TGC CCG CTA GAT GGC CTG TGC ATC CCC CTG AGG TGG CGC	3687
Glu Phe Gln Cys Pro Leu Asp Gly Leu Cys Ile Pro Leu Arg Trp Arg	
1070 1075 1080	
TGC GAC GGG GAC ACC GAC TGC ATG GAT TCC AGC GAT GAG AAG AGC TGT	3735
Cys Asp Gly Asp Thr Asp Cys Met Asp Ser Ser Asp Glu Lys Ser Cys	
1085 1090 1095	
GAG GGC GTG ACC CAT GTT TGT GAC CCG AAT GTC AAG TTT GGC TGC AAG	3783
Glu Gly Val Thr His Val Cys Asp Pro Asn Val Lys Phe Gly Cys Lys	
1100 1105 1110	
GAC TCC GCC CGG TGC ATC AGC AAG GCG TGG GTG TGT GAT GGC GAC AGC	3831
Asp Ser Ala Arg Cys Ile Ser Lys Ala Trp Val Cys Asp Gly Asp Ser	
1115 1120 1125 1130	
GAC TGT GAA GAT AAC TCC GAC GAG GAG AAC TGT GAG GCC CTG GCC TGC	3879
Asp Cys Glu Asp Asn Ser Asp Glu Glu Asn Cys Glu Ala Leu Ala Cys	
1135 1140 1145	
AGG CCA CCC TCC CAT CCC TGC GCC AAC AAC ACC TCT GTC TGC CTG CCT	3927
Arg Pro Pro Ser His Pro Cys Ala Asn Asn Thr Ser Val Cys Leu Pro	
1150 1155 1160	

FIG. 12A

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CCT GAC AAG CTG TGC GAC GGC AAG GAT GAC TGT GGA GAC GGC TCG GAT Pro Asp Lys Leu Cys Asp Gly Lys Asp Asp Cys Gly Asp Gly Ser Asp 1165 1170 1175	3975
GAG GGC GAG CTC TGT GAC CAG TGT TCT CTG AAT AAT GGT GGC TGT AGT Glu Gly Glu Leu Cys Asp Gln Cys Ser Leu Asn Asn Gly Gly Cys Ser 1180 1185 1190	4023
CAC AAC TGC TCA GTG GCC CCT GGT GAA GGC ATC GTG TGC TCT TGC CCT His Asn Cys Ser Val Ala Pro Gly Glu Gly Ile Val Cys Ser Cys Pro 1195 1200 1205 1210	4071
CTG GGC ATG GAG CTG GGC TCT GAC AAC CAC ACC TGC CAG ATC CAG AGC Leu Gly Met Glu Leu Gly Ser Asp Asn His Thr Cys Gln Ile Gln Ser 1215 1220 1225	4119
TAC TGT GCC AAG CAC CTC AAA TGC AGC CAG AAG TGT GAC CAG AAC AAG Tyr Cys Ala Lys His Leu Lys Cys Ser Gln Lys Cys Asp Gln Asn Lys 1230 1235 1240	4167
TTC AGT GTG AAG TGC TCC TGC TAC GAG GGC TGG GTC TTG GAG CCT GAC Phe Ser Val Lys Cys Ser Cys Tyr Glu Gly Trp Val Leu Glu Pro Asp 1245 1250 1255	4215
GGG GAA ACG TGC CGC AGT CTG GAT CCC TTC AAA CTG TTC ATC ATC TTC Gly Glu Thr Cys Arg Ser Leu Asp Pro Phe Lys Leu Phe Ile Ile Phe 1260 1265 1270	4263
TCC AAC CGC CAC GAG ATC AGG CGC ATT GAC CTT CAC AAG GGC GAC TAC Ser Asn Arg His Glu Ile Arg Arg Ile Asp Leu His Lys Gly Asp Tyr 1275 1280 1285 1290	4311
AGC GTC CTA GTG CCT GGC CTG CGC AAC ACT ATT GCC CTG GAC TTC CAC Ser Val Leu Val Pro Gly Leu Arg Asn Thr Ile Ala Leu Asp Phe His 1295 1300 1305	4359
CTC AGC CAG AGT GCC CTC TAC TGG ACC GAC GCG GTA GAG GAC AAG ATC Leu Ser Gln Ser Ala Leu Tyr Trp Thr Asp Ala Val Glu Asp Lys Ile 1310 1315 1320	4407
TAC CGT GGG AAA CTC CTG GAC AAC GGA GCC CTG ACC AGC TTT GAG GTG Tyr Arg Gly Lys Leu Leu Asp Asn Gly Ala Leu Thr Ser Phe Glu Val 1325 1330 1335	4455
GTG ATT CAG TAT GGC TTG GCC ACA CCA GAG GGC CTG GCT GTA GAT TGG Val Ile Gln Tyr Gly Leu Ala Thr Pro Glu Gly Leu Ala Val Asp Trp 1340 1345 1350	4503
ATT GCA GGC AAC ATC TAC TGG GTG GAG AGC AAC CTG GAC CAG ATC GAA Ile Ala Gly Asn Ile Tyr Trp Val Glu Ser Asn Leu Asp Gln Ile Glu 1355 1360 1365 1370	4551
GTG GCC AAG CTG GAC GGA ACC CTC CGA ACC ACT CTG CTG GCG GGT GAC Val Ala Lys Leu Asp Gly Thr Leu Arg Thr Thr Leu Leu Ala Gly Asp 1375 1380 1385	4599
ATT GAG CAC CCG AGG GCC ATC GCT CTG GAC CCT CGG GAT GGG ATT CTG Ile Glu His Pro Arg Ala Ile Ala Leu Asp Pro Arg Asp Gly Ile Leu 1390 1395 1400	4647

FIG. 12A

TTT TGG ACA GAC TGG GAT GCC AGC CTG CCA CGA ATC GAG GCT GCA TCC Phe Trp Thr Asp Trp Asp Ala Ser Leu Pro Arg Ile Glu Ala Ala Ser 1405 1410 1415	4695
ATG AGT GGA GCT GGC CGC CGA ACC ATC CAC CGG GAG ACA GGC TCT GGG Met Ser Gly Ala Gly Arg Arg Thr Ile His Arg Glu Thr Gly Ser Gly 1420 1425 1430	4743
GGC TGC GCC AAT GGG CTC ACC GTG GAT TAC CTG GAG AAG CGC ATC CTC Gly Cys Ala Asn Gly Leu Thr Val Asp Tyr Leu Glu Lys Arg Ile Leu 1435 1440 1445 1450	4791
TGG ATT GAT GCT AGG TCA GAT GCC ATC TAT TCA GCC CGG TAT GAC GGC Trp Ile Asp Ala Arg Ser Asp Ala Ile Tyr Ser Ala Arg Tyr Asp Gly 1455 1460 1465	4839
TCC GGC CAC ATG GAG GTG CTT CGG GGA CAC GAG TTC CTG TCA CAC CCA Ser Gly His Met Glu Val Leu Arg Gly His Glu Phe Leu Ser His Pro 1470 1475 1480	4887
TTT GCC GTG ACA CTG TAC GGT GGG GAG GTG TAC TGG ACC GAC TGG CGA Phe Ala Val Thr Leu Tyr Gly Gly Glu Val Tyr Trp Thr Asp Trp Arg 1485 1490 1495	4935
ACA AAT ACA CTG GCT AAG GCC AAC AAG TGG ACT GGC CAC AAC GTC ACC Thr Asn Thr Leu Ala Lys Ala Asn Lys Trp Thr Gly His Asn Val Thr 1500 1505 1510	4983
GTG GTA CAG AGG ACC AAC ACC CAG CCC TTC GAC CTG CAG GTG TAT CAC Val Val Gln Arg Thr Asn Thr Gln Pro Phe Asp Leu Gln Val Tyr His 1515 1520 1525 1530	5031
CCT TCC CGG CAG CCC ATG GCT CCA AAC CCA TGT GAG GCC AAT GGC GGC Pro Ser Arg Gln Pro Met Ala Pro Asn Pro Cys Glu Ala Asn Gly Gly 1535 1540 1545	5079
CGG GGC CCC TGT TCC CAT CTG TGC CTC ATC AAC TAC AAC CGG ACC GTC Arg Gly Pro Cys Ser His Leu Cys Leu Ile Asn Tyr Asn Arg Thr Val 1550 1555 1560	5127
TCC TGG GCC TGT CCC CAC CTC ATG AAG CTG CAC AAG GAC AAC ACC ACC Ser Trp Ala Cys Pro His Leu Met Lys Leu His Lys Asp Asn Thr Thr 1565 1570 1575	5175
TGC TAT GAG TTT AAG AAG TTC CTG CTG TAC GCA CGT CAG ATG GAG ATC Cys Tyr Glu Phe Lys Lys Phe Leu Leu Tyr Ala Arg Gln Met Glu Ile 1580 1585 1590	5223
CGG GGC GTG GAC CTG GAT GCC CCG TAC TAC AAT TAT ATC ATC TCC TTC Arg Gly Val Asp Leu Asp Ala Pro Tyr Tyr Asn Tyr Ile Ile Ser Phe 1595 1600 1605 1610	5271
ACG GTG CCT GAT ATC GAC AAT GTC ACG GTG CTG GAC TAT GAT GCC CGA Thr Val Pro Asp Ile Asp Asn Val Thr Val Leu Asp Tyr Asp Ala Arg 1615 1620 1625	5319
GAG CAG CGA GTT TAC TGG TCT GAT GTG CGG ACT CAA GCC ATC AAA AGG Glu Gln Arg Val Tyr Trp Ser Asp Val Arg Thr Gln Ala Ile Lys Arg 1630 1635 1640	5367

FIG. 12A

GCA TTT ATC AAC GGC ACT GGC GTG GAG ACC GTT GTC TCT GCA GAC TTG Ala Phe Ile Asn Gly Thr Gly Val Glu Thr Val Val Ser Ala Asp Leu 1645 1650 1655	5415
CCC AAC GCC CAC GGG CTG GCT GTG GAC TGG GTC TCC CGA AAT CTG TTT Pro Asn Ala His Gly Leu Ala Val Asp Trp Val Ser Arg Asn Leu Phe 1660 1665 1670	5463
TGG ACA AGT TAC GAC ACC AAC AAG AAG CAG ATT AAC GTG GCC CGG CTG Trp Thr Ser Tyr Asp Thr Asn Lys Lys Gln Ile Asn Val Ala Arg Leu 1675 1680 1685 1690	5511
GAC GGC TCC TTC AAG AAT GCG GTG GTG CAG GGC CTG GAG CAG CCC CAC Asp Gly Ser Phe Lys Asn Ala Val Val Gln Gly Leu Glu Gln Pro His 1695 1700 1705	5559
GGC CTG GTC GTC CAC CCG CTT CGT GGC AAG CTC TAC TGG ACT GAT GGG Gly Leu Val Val His Pro Leu Arg Gly Lys Leu Tyr Trp Thr Asp Gly 1710 1715 1720	5607
GAC AAC ATC AGC ATG GCC AAC ATG GAT GGG AGC AAC CAC ACT CTG CTC Asp Asn Ile Ser Met Ala Asn Met Asp Gly Ser Asn His Thr Leu Leu 1725 1730 1735	5655
TTC AGT GGC CAG AAG GGC CCT GTG GGG TTG GCC ATT GAC TTC CCT GAG Phe Ser Gly Gln Lys Gly Pro Val Gly Leu Ala Ile Asp Phe Pro Glu 1740 1745 1750	5703
AGC AAA CTC TAC TGG ATC AGC TCT GGG AAC CAC ACA ATC AAC CGT TGC Ser Lys Leu Tyr Trp Ile Ser Ser Gly Asn His Thr Ile Asn Arg Cys 1755 1760 1765 1770	5751
AAT CTG GAT GGG AGC GAG CTG GAG GTC ATC GAC ACC ATG CGG AGC CAG Asn Leu Asp Gly Ser Glu Leu Glu Val Ile Asp Thr Met Arg Ser Gln 1775 1780 1785	5799
CTG GGC AAG GCC ACT GCC CTG GCC ATC ATG GGG GAC AAG CTG TGG TGG Leu Gly Lys Ala Thr Ala Leu Ala Ile Met Gly Asp Lys Leu Trp Trp 1790 1795 1800	5847
GCA GAT CAG GTG TCA GAG AAG ATG GGC ACG TGC AAC AAA GCC GAT GGC Ala Asp Gln Val Ser Glu Lys Met Gly Thr Cys Asn Lys Ala Asp Gly 1805 1810 1815	5895
TCT GGG TCC GTG GTG CTG CGG AAC AGT ACC ACG TTG GTT ATG CAC ATG Ser Gly Ser Val Val Leu Arg Asn Ser Thr Thr Leu Val Met His Met 1820 1825 1830	5943
AAG GTG TAT GAC GAG AGC ATC CAG CTA GAG CAT GAG GGC ACC AAC CCC Lys Val Tyr Asp Glu Ser Ile Gln Leu Glu His Glu Gly Thr Asn Pro 1835 1840 1845 1850	5991
TGC AGT GTC AAC AAC GGA GAC TGT TCC CAG CTC TGC CTG CCA ACA TCA Cys Ser Val Asn Asn Gly Asp Cys Ser Gln Leu Cys Leu Pro Thr Ser 1855 1860 1865	6039
GAG ACG ACT CGC TCC TGT ATG TGT ACA GCC GGT TAC AGC CTC CGG AGC Glu Thr Thr Arg Ser Cys Met Cys Thr Ala Gly Tyr Ser Leu Arg Ser 1870 1875 1880	6087

FIG. 12A

GGA CAG CAG GCC TGT GAG GGT GTG GGC TCT TTT CTC CTG TAC TCT GTA Gly Gln Gln Ala Cys Glu Gly Val Gly Ser Phe Leu Leu Tyr Ser Val 1885 1890 1895	6135
CAT GAG GGA ATT CGG GGG ATT CCA CTA GAT CCC AAT GAC AAG TCG GAT His Glu Gly Ile Arg Gly Ile Pro Leu Asp Pro Asn Asp Lys Ser Asp 1900 1905 1910	6183
GCC CTG GTC CCA GTG TCC GGA ACT TCA CTG GCT GTC GGA ATC GAC TTC Ala Leu Val Pro Val Ser Gly Thr Ser Leu Ala Val Gly Ile Asp Phe 1915 1920 1925 1930	6231
CAT GCC GAA AAT GAC ACT ATT TAT TGG GTG GAT ATG GGC CTA AGC ACC His Ala Glu Asn Asp Thr Ile Tyr Trp Val Asp Met Gly Leu Ser Thr 1935 1940 1945	6279
ATC AGC AGG GCC AAG CGT GAC CAG ACA TGG CGA GAG GAT GTG GTG ACC Ile Ser Arg Ala Lys Arg Asp Gln Thr Trp Arg Glu Asp Val Val Thr 1950 1955 1960	6327
AAC GGT ATT GGC CGT GTG GAG GGC ATC GCC GTG GAC TGG ATC GCA GGC Asn Gly Ile Gly Arg Val Glu Gly Ile Ala Val Asp Trp Ile Ala Gly 1965 1970 1975	6375
AAC ATA TAC TGG ACG GAC CAG GGC TTC GAT GTC ATC GAG GTT GCC CGG Asn Ile Tyr Trp Thr Asp Gln Gly Phe Asp Val Ile Glu Val Ala Arg 1980 1985 1990	6423
CTC AAT GGC TCT TTT CGT TAT GTG GTC ATT TCC CAG GGT CTG GAC AAG Leu Asn Gly Ser Phe Arg Tyr Val Val Ile Ser Gln Gly Leu Asp Lys 1995 2000 2005 2010	6471
CCT CGG GCC ATC ACT GTC CAC CCA GAG AAG GGG TAC TTG TTC TGG ACC Pro Arg Ala Ile Thr Val His Pro Glu Lys Gly Tyr Leu Phe Trp Thr 2015 2020 2025	6519
GAG TGG GGT CAT TAC CCA CGT ATT GAG CGG TCT CGC CTT GAT GGC ACA Glu Trp Gly His Tyr Pro Arg Ile Glu Arg Ser Arg Leu Asp Gly Thr 2030 2035 2040	6567
GAG AGA GTG GTG TTG GTT AAT GTC AGC ATC AGC TGG CCC AAT GGC ATC Glu Arg Val Val Leu Val Asn Val Ser Ile Ser Trp Pro Asn Gly Ile 2045 2050 2055	6615
TCA GTA GAC TAT CAG GGC GGC AAG CTC TAC TGG TGT GAT GCT CGG ATG Ser Val Asp Tyr Gln Gly Gly Lys Leu Tyr Trp Cys Asp Ala Arg Met 2060 2065 2070	6663
GAC AAG ATC GAG CGC ATC GAC CTG GAA ACG GGC GAG AAC CGG GAG GTG Asp Lys Ile Glu Arg Ile Asp Leu Glu Thr Gly Glu Asn Arg Glu Val 2075 2080 2085 2090	6711
GTC CTG TCC AGC AAT AAC ATG GAT ATG TTC TCC GTG TCC GTG TTT GAG Val Leu Ser Ser Asn Asn Met Asp Met Phe Ser Val Ser Val Phe Glu 2095 2100 2105	6759
GAC TTC ATC TAC TGG AGT GAC AGA ACT CAC GCC AAT GGC TCC ATC AAG Asp Phe Ile Tyr Trp Ser Asp Arg Thr His Ala Asn Gly Ser Ile Lys 2110 2115 2120	6807

FIG. 12A

CGC GGC TGC AAA GAC AAT GCT ACA GAC TCC GTG CCT CTG AGG ACA GGC Arg Gly Cys Lys Asp Asn Ala Thr Asp Ser Val Pro Leu Arg Thr Gly 2125 2130 2135	6855
ATT GGT GTT CAG CTT AAA GAC ATC AAG GTC TTC AAC AGG GAC AGG CAG Ile Gly Val Gln Leu Lys Asp Ile Lys Val Phe Asn Arg Asp Arg Gln 2140 2145 2150	6903
AAG GGT ACC AAT GTG TGC GCG GTA GCC AAC GGC GGG TGC CAG CAG CTC Lys Gly Thr Asn Val Cys Ala Val Ala Asn Gly Gly Cys Gln Gln Leu 2155 2160 2165 2170	6951
TGC TTG TAT CGG GGT GGC GGA CAG CGA GCC TGT GCC TGT GCC CAC GGG Cys Leu Tyr Arg Gly Gly Gly Gln Arg Ala Cys Ala Cys Ala His Gly 2175 2180 2185	6999
ATG CTG GCA GAA GAC GGG GCC TCA TGC CGA GAG TAC GCT GGC TAC CTG Met Leu Ala Glu Asp Gly Ala Ser Cys Arg Glu Tyr Ala Gly Tyr Leu 2190 2195 2200	7047
CTC TAC TCA GAG CGG ACC ATC CTC AAG AGC ATC CAC CTG TCG GAT GAG Leu Tyr Ser Glu Arg Thr Ile Leu Lys Ser Ile His Leu Ser Asp Glu 2205 2210 2215	7095
CGT AAC CTC AAC GCA CCG GTG CAG CCC TTT GAA GAC CCC GAG CAC ATG Arg Asn Leu Asn Ala Pro Val Gln Pro Phe Glu Asp Pro Glu His Met 2220 2225 2230	7143
AAA AAT GTC ATC GCC CTG GCC TTT GAC TAC CGA GCA GGC ACC TCC CCG Lys Asn Val Ile Ala Leu Ala Phe Asp Tyr Arg Ala Gly Thr Ser Pro 2235 2240 2245 2250	7191
GGG ACC CCT AAC CGC ATC TTC TTC AGT GAC ATC CAC TTT GGG AAC ATC Gly Thr Pro Asn Arg Ile Phe Phe Ser Asp Ile His Phe Gly Asn Ile 2255 2260 2265	7239
CAG CAG ATC AAT GAC GAT GGC TCG GGC AGG ACC ACC ATC GTG GAA AAT Gln Gln Ile Asn Asp Asp Gly Ser Gly Arg Thr Thr Ile Val Glu Asn 2270 2275 2280	7287
GTG GGC TCT GTG GAA GGC CTG GCC TAT CAC CGT GGC TGG GAC ACA CTG Val Gly Ser Val Glu Gly Leu Ala Tyr His Arg Gly Trp Asp Thr Leu 2285 2290 2295	7335
TAC TGG ACA AGC TAC ACC ACA TCC ACC ATC ACC CGC CAC ACC GTG GAC Tyr Trp Thr Ser Tyr Thr Thr Ser Thr Ile Thr Arg His Thr Val Asp 2300 2305 2310	7383
CAG ACT CGC CCA GGG GCC TTC GAG AGG GAG ACA GTC ATC ACC ATG TCC Gln Thr Arg Pro Gly Ala Phe Glu Arg Glu Thr Val Ile Thr Met Ser 2315 2320 2325 2330	7431
GGA GAC GAC CAC CCG AGA GCC TTT GTG CTG GAT GAG TGC CAG AAC CTG Gly Asp Asp His Pro Arg Ala Phe Val Leu Asp Glu Cys Gln Asn Leu 2335 2340 2345	7479
ATG TTC TGG ACC AAT TGG AAC GAG CTC CAT CCA AGC ATC ATG CGG GCA Met Phe Trp Thr Asn Trp Asn Glu Leu His Pro Ser Ile Met Arg Ala 2350 2355 2360	7527

FIG. 12A

GCC CTA TCC GGA GCC AAC GTC CTG ACC CTC ATT GAG AAG GAC ATC CGC Ala Leu Ser Gly Ala Asn Val Leu Thr Leu Ile Glu Lys Asp Ile Arg 2365 2370 2375	7575
ACG CCC AAT GGG TTG GCC ATC GAC CAC CGG GCG GAG AAG CTG TAC TTC Thr Pro Asn Gly Leu Ala Ile Asp His Arg Ala Glu Lys Leu Tyr Phe 2380 2385 2390	7623
TCG GAT GCC ACC TTG GAC AAG ATC GAG CGC TGC GAG TAC GAC GGC TCC Ser Asp Ala Thr Leu Asp Lys Ile Glu Arg Cys Glu Tyr Asp Gly Ser 2395 2400 2405 2410	7671
CAC CGC TAT GTG ATC CTA AAG TCG GAG CCC GTC CAC CCC TTT GGG TTG His Arg Tyr Val Ile Leu Lys Ser Glu Pro Val His Pro Phe Gly Leu 2415 2420 2425	7719
GCG GTG TAC GGA GAG CAC ATT TTC TGG ACT GAC TGG GTG CGG CGG GCT Ala Val Tyr Gly Glu His Ile Phe Trp Thr Asp Trp Val Arg Arg Ala 2430 2435 2440	7767
GTG CAG CGA GCC AAC AAG TAT GTG GGC AGC GAC ATG AAG CTG CTT CGG Val Gln Arg Ala Asn Lys Tyr Val Gly Ser Asp Met Lys Leu Leu Arg 2445 2450 2455	7815
GTG GAC ATT CCC CAG CAA CCC ATG GGC ATC ATC GCC GTG GCC AAT GAC Val Asp Ile Pro Gln Gln Pro Met Gly Ile Ile Ala Val Ala Asn Asp 2460 2465 2470	7863
ACC AAC AGC TGT GAA CTC TCC CCC TGC CGT ATC AAC AAT GGA GGC TGC Thr Asn Ser Cys Glu Leu Ser Pro Cys Arg Ile Asn Asn Gly Gly Cys 2475 2480 2485 2490	7911
CAG GAT CTG TGT CTG CTC ACC CAC CAA GGC CAC GTC AAC TGT TCC TGT Gln Asp Leu Cys Leu Leu Thr His Gln Gly His Val Asn Cys Ser Cys 2495 2500 2505	7959
CGA GGG GGC CGG ATC CTC CAG GAG GAC TTC ACC TGC CGG GCT GTG AAC Arg Gly Gly Arg Ile Leu Gln Glu Asp Phe Thr Cys Arg Ala Val Asn 2510 2515 2520	8007
TCC TCT TGT CGG GCA CAA GAT GAG TTT GAG TGT GCC AAT GGG GAA TGT Ser Ser Cys Arg Ala Gln Asp Glu Phe Glu Cys Ala Asn Gly Glu Cys 2525 2530 2535	8055
ATC AGC TTC AGC CTC ACC TGT GAT GGC GTC TCC CAC TGC AAG GAC AAG Ile Ser Phe Ser Leu Thr Cys Asp Gly Val Ser His Cys Lys Asp Lys 2540 2545 2550	8103
TCC GAT GAG AAG CCC TCC TAC TGC AAC TCA CGC CGC TGC AAG AAG ACT Ser Asp Glu Lys Pro Ser Tyr Cys Asn Ser Arg Arg Cys Lys Lys Thr 2555 2560 2565 2570	8151
TTC CGC CAG TGT AAC AAT GGC CGC TGT GTA TCC AAC ATG CTG TGG TGC Phe Arg Gln Cys Asn Asn Gly Arg Cys Val Ser Asn Met Leu Trp Cys 2575 2580 2585	8199
AAT GGG GTG GAT TAC TGT GGG GAT GGC TCT GAT GAG ATA CCT TGC AAC Asn Gly Val Asp Tyr Cys Gly Asp Gly Ser Asp Glu Ile Pro Cys Asn 2590 2595 2600	8247

FIG. 12A

AAG ACT GCC TGT GGT GTG GGT GAG TTC CGC TGC CGG GAT GGG TCC TGC Lys Thr Ala Cys Gly Val Gly Glu Phe Arg Cys Arg Asp Gly Ser Cys 2605 2610 2615	8295
ATC GGG AAC TCC AGT CGC TGC AAC CAG TTT GTG GAT TGT GAG GAT GCC Ile Gly Asn Ser Ser Arg Cys Asn Gln Phe Val Asp Cys Glu Asp Ala 2620 2625 2630	8343
TCG GAT GAG ATG AAT TGC AGT GCC ACA GAC TGC AGC AGC TAT TTC CGC Ser Asp Glu Met Asn Cys Ser Ala Thr Asp Cys Ser Ser Tyr Phe Arg 2635 2640 2645 2650	8391
CTG GGC GTG AAA GGT GTC CTC TTC CAG CCG TGC GAG CGG ACA TCC CTG Leu Gly Val Lys Gly Val Leu Phe Gln Pro Cys Glu Arg Thr Ser Leu 2655 2660 2665	8439
TGC TAC GCA CCT AGC TGG GTG TGT GAT GGC GCC AAC GAC TGT GGA GAC Cys Tyr Ala Pro Ser Trp Val Cys Asp Gly Ala Asn Asp Cys Gly Asp 2670 2675 2680	8487
TAC AGC GAT GAA CGT GAC TGT CCA GGT GTG AAG CGC CCT AGG TGC CCG Tyr Ser Asp Glu Arg Asp Cys Pro Gly Val Lys Arg Pro Arg Cys Pro 2685 2690 2695	8535
CTC AAT TAC TTT GCC TGC CCC AGC GGG CGC TGT ATC CCC ATG AGC TGG Leu Asn Tyr Phe Ala Cys Pro Ser Gly Arg Cys Ile Pro Met Ser Trp 2700 2705 2710	8583
ACG TGT GAC AAG GAG GAT GAC TGT GAG AAC GGC GAG GAT GAG ACC CAC Thr Cys Asp Lys Glu Asp Asp Cys Glu Asn Gly Glu Asp Glu Thr His 2715 2720 2725 2730	8631
TGC AAC AAG TTC TGC TCA GAG GCA CAG TTC GAG TGC CAG AAC CAC CGG Cys Asn Lys Phe Cys Ser Glu Ala Gln Phe Glu Cys Gln Asn His Arg 2735 2740 2745	8679
TGT ATC TCC AAG CAG TGG CTG TGT GAC GGT AGC GAT GAT TGC GGG GAT Cys Ile Ser Lys Gln Trp Leu Cys Asp Gly Ser Asp Asp Cys Gly Asp 2750 2755 2760	8727
GGC TCC GAT GAG GCA GCT CAC TGT GAA GGC AAG ACA TGT GGC CCC TCC Gly Ser Asp Glu Ala Ala His Cys Glu Gly Lys Thr Cys Gly Pro Ser 2765 2770 2775	8775
TCC TTC TCC TGT CCC GGC ACC CAC GTG TGT GTC CCT GAG CGC TGG CTC Ser Phe Ser Cys Pro Gly Thr His Val Cys Val Pro Glu Arg Trp Leu 2780 2785 2790	8823
TGT GAT GGC GAC AAG GAC TGT ACC GAT GGC GCG GAT GAG AGT GTC ACT Cys Asp Gly Asp Lys Asp Cys Thr Asp Gly Ala Asp Glu Ser Val Thr 2795 2800 2805 2810	8871
GCT GGC TGC CTG TAC AAC AGC ACC TGT GAT GAC CGT GAG TTC ATG TGC Ala Gly Cys Leu Tyr Asn Ser Thr Cys Asp Asp Arg Glu Phe Met Cys 2815 2820 2825	8919
CAG AAC CGC TTG TGT ATT CCC AAG CAT TTC GTG TGC GAC CAT GAC CGT Gln Asn Arg Leu Cys Ile Pro Lys His Phe Val Cys Asp His Asp Arg 2830 2835 2840	8967

FIG. 12A

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GAC TGT GCT GAT GGC TCT GAT GAA TCC CCT GAG TGT GAG TAC CCA ACC	9015
Asp Cys Ala Asp Gly Ser Asp Glu Ser Pro Glu Cys Glu Tyr Pro Thr	
2845 2850 2855	
TGC GGG CCC AAT GAA TTC CGC TGT GCC AAT GGG CGT TGT CTG AGC TCC	9063
Cys Gly Pro Asn Glu Phe Arg Cys Ala Asn Gly Arg Cys Leu Ser Ser	
2860 2865 2870	
CGT CAG TGG GAA TGT GAT GGG GAG AAT GAC TGT CAC GAC CAC AGC GAT	9111
Arg Gln Trp Glu Cys Asp Gly Glu Asn Asp Cys His Asp His Ser Asp	
2875 2880 2885 2890	
GAG GCT CCC AAG AAC CCA CAC TGC ACC AGC CCA GAG CAC AAA TGC AAT	9159
Glu Ala Pro Lys Asn Pro His Cys Thr Ser Pro Glu His Lys Cys Asn	
2895 2900 2905	
GCC TCA TCA CAG TTC CTG TGC AGC AGC GGG CGC TGC GTG GCT GAG GCG	9207
Ala Ser Ser Gln Phe Leu Cys Ser Ser Gly Arg Cys Val Ala Glu Ala	
2910 2915 2920	
TTG CTC TGC AAC GGC CAG GAC GAC TGT GGG GAC GGT TCA GAC GAA CGC	9255
Leu Leu Cys Asn Gly Gln Asp Asp Cys Gly Asp Gly Ser Asp Glu Arg	
2925 2930 2935	
GGG TGC CAT GTC AAC GAG TGT CTC AGC CGC AAG CTC AGT GGC TGC AGT	9303
Gly Cys His Val Asn Glu Cys Leu Ser Arg Lys Leu Ser Gly Cys Ser	
2940 2945 2950	
CAG GAC TGC GAG GAC CTC AAG ATA GGC TTT AAG TGC CGC TGT CGC CCG	9351
Gln Asp Cys Glu Asp Leu Lys Ile Gly Phe Lys Cys Arg Cys Arg Pro	
2955 2960 2965 2970	
GGC TTC CGG CTA AAG GAC GAT GGC AGG ACC TGT GCC GAC CTG GAT GAG	9399
Gly Phe Arg Leu Lys Asp Asp Gly Arg Thr Cys Ala Asp Leu Asp Glu	
2975 2980 2985	
TGC AGC ACC ACC TTC CCC TGC AGC CAG CTC TGC ATC AAC ACC CAC GGA	9447
Cys Ser Thr Thr Phe Pro Cys Ser Gln Leu Cys Ile Asn Thr His Gly	
2990 2995 3000	
AGT TAC AAG TGT CTG TGT GTG GAG GGC TAT GCA CCC CGT GGC GGT GAC	9495
Ser Tyr Lys Cys Leu Cys Val Glu Gly Tyr Ala Pro Arg Gly Gly Asp	
3005 3010 3015	
CCC CAC AGC TGC AAA GCT GTG ACC GAT GAG GAG CCA TTT CTC ATC TTT	9543
Pro His Ser Cys Lys Ala Val Thr Asp Glu Glu Pro Phe Leu Ile Phe	
3020 3025 3030	
GCC AAC CGG TAC TAC CTG CGG AAG CTC AAC CTG GAC GGC TCC AAC TAC	9591
Ala Asn Arg Tyr Tyr Leu Arg Lys Leu Asn Leu Asp Gly Ser Asn Tyr	
3035 3040 3045 3050	
ACA CTG CTT AAG CAG GGC CTG AAC AAT GCG GTC GCC TTG GCA TTT GAC	9639
Thr Leu Leu Lys Gln Gly Leu Asn Asn Ala Val Ala Leu Ala Phe Asp	
3055 3060 3065	
TAC CGA GAG CAG ATG ATC TAC TGG ACG GGC GTG ACC ACC CAG GGC AGC	9687
Tyr Arg Glu Gln Met Ile Tyr Trp Thr Gly Val Thr Thr Gln Gly Ser	
3070 3075 3080	

FIG. 12A

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ATG ATT CGC AGG ATG CAC CTC AAC GGC AGC AAC GTG CAG GTT CTG CAC Met Ile Arg Arg Met His Leu Asn Gly Ser Asn Val Gln Val Leu His 3085 3090 3095	9735
CGG ACG GGC CTT AGT AAC CCA GAT GGG CTC GCT GTG GAC TGG GTG GGT Arg Thr Gly Leu Ser Asn Pro Asp Gly Leu Ala Val Asp Trp Val Gly 3100 3105 3110	9783
GGC AAC CTG TAC TGG TGT GAC AAG GGC AGA GAT ACC ATT GAG GTG TCC Gly Asn Leu Tyr Trp Cys Asp Lys Gly Arg Asp Thr Ile Glu Val Ser 3115 3120 3125 3130	9831
AAG CTT AAC GGG GCC TAT CGG ACA GTG CTG GTC AGC TCT GGC CTC CGG Lys Leu Asn Gly Ala Tyr Arg Thr Val Leu Val Ser Ser Gly Leu Arg 3135 3140 3145	9879
GAG CCC AGA GCT CTG GTA GTG GAT GTA CAG AAT GGG TAC CTG TAC TGG Glu Pro Arg Ala Leu Val Val Asp Val Gln Asn Gly Tyr Leu Tyr Trp 3150 3155 3160	9927
ACA GAC TGG GGT GAC CAC TCA CTG ATC GGC CGG ATT GGC ATG GAT GGA Thr Asp Trp Gly Asp His Ser Leu Ile Gly Arg Ile Gly Met Asp Gly 3165 3170 3175	9975
TCT GGC CGC AGC ATC ATC GTG GAC ACT AAG ATC ACA TGG CCC AAT GGC Ser Gly Arg Ser Ile Ile Val Asp Thr Lys Ile Thr Trp Pro Asn Gly 3180 3185 3190	10023
CTG ACC GTG GAC TAC GTC ACG GAA CGC ATC TAC TGG GCT GAC GCC CGT Leu Thr Val Asp Tyr Val Thr Glu Arg Ile Tyr Trp Ala Asp Ala Arg 3195 3200 3205 3210	10071
GAG GAC TAC ATC GAG TTC GCC AGC CTG GAT GGC TCC AAC CGT CAC GTT Glu Asp Tyr Ile Glu Phe Ala Ser Leu Asp Gly Ser Asn Arg His Val 3215 3220 3225	10119
GTG CTG AGC CAA GAC ATC CCA CAC ATC TTT GCG CTG ACC CTA TTT GAA Val Leu Ser Gln Asp Ile Pro His Ile Phe Ala Leu Thr Leu Phe Glu 3230 3235 3240	10167
GAC TAC GTC TAC TGG ACA GAC TGG GAA ACG AAG TCC ATC AAC CGG GCC Asp Tyr Val Tyr Trp Thr Asp Trp Glu Thr Lys Ser Ile Asn Arg Ala 3245 3250 3255	10215
CAC AAG ACC ACG GGT GCC AAC AAA ACA CTC CTC ATC AGC ACC CTG CAC His Lys Thr Thr Gly Ala Asn Lys Thr Leu Leu Ile Ser Thr Leu His 3260 3265 3270	10263
CGG CCC ATG GAC TTA CAT GTA TTC CAC GCC CTG CGC CAG CCA GAT GTG Arg Pro Met Asp Leu His Val Phe His Ala Leu Arg Gln Pro Asp Val 3275 3280 3285 3290	10311
CCC AAT CAC CCC TGC AAA GTC AAC AAT GGT GGC TGC AGC AAC CTG TGC Pro Asn His Pro Cys Lys Val Asn Asn Gly Gly Cys Ser Asn Leu Cys 3295 3300 3305	10359
CTG CTG TCC CCT GGG GGT GGT CAC AAG TGC GCC TGC CCC ACC AAC TTC Leu Leu Ser Pro Gly Gly Gly His Lys Cys Ala Cys Pro Thr Asn Phe 3310 3315 3320	10407

FIG. 12A

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(Sheet 35 of 91)

TAT CTG GGT GGC GAT GGC CGT ACC TGT GTG TCC AAC TGC ACA GCA AGC	10455
Tyr Leu Gly Gly Asp Gly Arg Thr Cys Val Ser Asn Cys Thr Ala Ser	
3325 3330 3335	
CAG TTT GTG TGC AAA AAT GAC AAG TGC ATC CCC TTC TGG TGG AAG TGT	10503
Gln Phe Val Cys Lys Asn Asp Lys Cys Ile Pro Phe Trp Trp Lys Cys	
3340 3345 3350	
GAC ACG GAG GAC GAC TGT GGG GAT CAC TCA GAC GAG CCT CCA GAC TGT	10551
Asp Thr Glu Asp Asp Cys Gly Asp His Ser Asp Glu Pro Pro Asp Cys	
3355 3360 3365 3370	
CCC GAG TTC AAG TGC CGC CCA GGC CAG TTC CAG TGC TCC ACC GGC ATC	10599
Pro Glu Phe Lys Cys Arg Pro Gly Gln Phe Gln Cys Ser Thr Gly Ile	
3375 3380 3385	
TGC ACC AAC CCT GCC TTC ATC TGT GAT GGG GAC AAT GAC TGC CAA GAC	10647
Cys Thr Asn Pro Ala Phe Ile Cys Asp Gly Asp Asn Asp Cys Gln Asp	
3390 3395 3400	
AAT AGT GAC GAG GCC AAT TGC GAC ATT CAC GTC TGC TTG CCC AGC CAA	10695
Asn Ser Asp Glu Ala Asn Cys Asp Ile His Val Cys Leu Pro Ser Gln	
3405 3410 3415	
TTC AAG TGC ACC AAC ACC AAC CGC TGC ATT CCT GGC ATC TTC CGT TGC	10743
Phe Lys Cys Thr Asn Thr Asn Arg Cys Ile Pro Gly Ile Phe Arg Cys	
3420 3425 3430	
AAT GGG CAG GAC AAC TGC GGG GAC GGC GAG GAT GAG CGG GAT TGC CCT	10791
Asn Gly Gln Asp Asn Cys Gly Asp Gly Glu Asp Glu Arg Asp Cys Pro	
3435 3440 3445 3450	
GAG GTG ACC TGC GCC CCC AAC CAG TTC CAG TGC TCC ATC ACC AAG CGC	10839
Glu Val Thr Cys Ala Pro Asn Gln Phe Gln Cys Ser Ile Thr Lys Arg	
3455 3460 3465	
TGC ATC CCT CGC GTC TGG GTC TGT GAC AGG GAT AAT CAC TGT GTG GAC	10887
Cys Ile Pro Arg Val Trp Val Cys Asp Arg Asp Asn His Cys Val Asp	
3470 3475 3480	
GGC AGT GAT GAG CCT GCC AAC TGT ACC CAA ATG ACC TGT GGA GTG GAT	10935
Gly Ser Asp Glu Pro Ala Asn Cys Thr Gln Met Thr Cys Gly Val Asp	
3485 3490 3495	
GAG TTC CGC TGC AAG GAT TCT GGC CGC TGC ATC CCC GCG CGC TGG AAG	10983
Glu Phe Arg Cys Lys Asp Ser Gly Arg Cys Ile Pro Ala Arg Trp Lys	
3500 3505 3510	
TGT GAC GGA GAA GAT GAC TGT GGG GAT GGT TCA GAT GAG CCC AAG GAA	11031
Cys Asp Gly Glu Asp Asp Cys Gly Asp Gly Ser Asp Glu Pro Lys Glu	
3515 3520 3525 3530	
GAG TGT GAT GAG CGC ACC TGT GAG CCA TAC CAG TTC CGC TGC AAA AAC	11079
Glu Cys Asp Glu Arg Thr Cys Glu Pro Tyr Gln Phe Arg Cys Lys Asn	
3535 3540 3545	
AAC CGC TGT GTC CCA GGC CGT TGG CAA TGT GAC TAC GAC AAC GAC TGC	11127
Asn Arg Cys Val Pro Gly Arg Trp Gln Cys Asp Tyr Asp Asn Asp Cys	
3550 3555 3560	

FIG. 12A

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(Sheet 36 of 91)

GGA GAT AAC TCG GAC GAG GAG AGC TGC ACA CCT CGG CCC TGC TCT GAG 11175
 Gly Asp Asn Ser Asp Glu Glu Ser Cys Thr Pro Arg Pro Cys Ser Glu
 3565 3570 3575

AGT GAG TTT TTC TGT GCC AAT GGC CGC TGC ATC GCT GGG CGC TGG AAG 11223
 Ser Glu Phe Phe Cys Ala Asn Gly Arg Cys Ile Ala Gly Arg Trp Lys
 3580 3585 3590

TGT GAT GGG GAC CAT GAC TGT GCC GAC GGC TCA GAC GAG AAA GAC TGC 11271
 Cys Asp Gly Asp His Asp Cys Ala Asp Gly Ser Asp Glu Lys Asp Cys
 3595 3600 3605 3610

ACC CCC CGC TGT GAT ATG GAC CAG TTC CAG TGC AAG AGT GGC CAC TGC 11319
 Thr Pro Arg Cys Asp Met Asp Gln Phe Gln Cys Lys Ser Gly His Cys
 3615 3620 3625

ATC CCC CTG CGC TGG CCG TGT GAC GCG GAT GCT GAC TGT ATG GAC GGC 11367
 Ile Pro Leu Arg Trp Pro Cys Asp Ala Asp Ala Asp Cys Met Asp Gly
 3630 3635 3640

AGT GAC GAG GAA GCC TGT GGC ACT GGG GTG AGG ACC TGC CCA TTG GAT 11415
 Ser Asp Glu Glu Ala Cys Gly Thr Gly Val Arg Thr Cys Pro Leu Asp
 3645 3650 3655

GAG TTT CAA TGT AAC AAC ACC TTG TGC AAG CCG CTG GCC TGG AAG TGT 11463
 Glu Phe Gln Cys Asn Asn Thr Leu Cys Lys Pro Leu Ala Trp Lys Cys
 3660 3665 3670

GAT GGA GAG GAC GAC TGT GGG GAC AAC TCA GAT GAG AAC CCC GAG GAA 11511
 Asp Gly Glu Asp Asp Cys Gly Asp Asn Ser Asp Glu Asn Pro Glu Glu
 3675 3680 3685 3690

TGC GCC CGG TTC ATC TGC CCT CCC AAC CGG CCT TTC CGC TGC AAG AAT 11559
 Cys Ala Arg Phe Ile Cys Pro Pro Asn Arg Pro Phe Arg Cys Lys Asn
 3695 3700 3705

GAC CGA GTC TGC CTG TGG ATT GGG CGC CAG TGT GAT GGC GTG GAC AAC 11607
 Asp Arg Val Cys Leu Trp Ile Gly Arg Gln Cys Asp Gly Val Asp Asn
 3710 3715 3720

TGT GGA GAT GGG ACT GAC GAG GAG GAC TGT GAG CCC CCC ACG GCC CAG 11655
 Cys Gly Asp Gly Thr Asp Glu Glu Asp Cys Glu Pro Pro Thr Ala Gln
 3725 3730 3735

AAC CCC CAC TGC AAA GAC AAG AAG GAG TTC CTG TGC CGA AAC CAG CGC 11703
 Asn Pro His Cys Lys Asp Lys Lys Glu Phe Leu Cys Arg Asn Gln Arg
 3740 3745 3750

TGT CTA TCA TCC TCC CTG CGC TGT AAC ATG TTC GAT GAC TGC GGC GAT 11751
 Cys Leu Ser Ser Ser Leu Arg Cys Asn Met Phe Asp Asp Cys Gly Asp
 3755 3760 3765 3770

GGC TCC GAT GAA GAA GAT TGC AGC ATC GAC CCC AAG CTG ACC AGC TGT 11799
 Gly Ser Asp Glu Glu Asp Cys Ser Ile Asp Pro Lys Leu Thr Ser Cys
 3775 3780 3785

GCC ACC AAT GCC AGC ATG TGT GGG GAC GAA GCT CGT TGT GTG CGC ACT 11847
 Ala Thr Asn Ala Ser Met Cys Gly Asp Glu Ala Arg Cys Val Arg Thr
 3790 3795 3800

FIG. 12A

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(Sheet 37 of 91)

GAG AAA GCT GCC TAC TGT GCC TGC CGC TCG GGC TTC CAT ACT GTG CCG	11895
Glu Lys Ala Ala Tyr Cys Ala Cys Arg Ser Gly Phe His Thr Val Pro	
3805 3810 3815	
GGC CAG CCC GGA TGC CAG GAC ATC AAC GAG TGC CTG CGC TTT GGT ACC	11943
Gly Gln Pro Gly Cys Gln Asp Ile Asn Glu Cys Leu Arg Phe Gly Thr	
3820 3825 3830	
TGC TCT CAG CTC TGG AAC AAA CCC AAG GGA GGC CAC CTC TGC AGC TGT	11991
Cys Ser Gln Leu Trp Asn Lys Pro Lys Gly Gly His Leu Cys Ser Cys	
3835 3840 3845 3850	
GCC CGC AAC TTC ATG AAG ACA CAC AAC ACC TGC AAA GCT GAA GGC TCC	12039
Ala Arg Asn Phe Met Lys Thr His Asn Thr Cys Lys Ala Glu Gly Ser	
3855 3860 3865	
GAG TAC CAG GTG CTA TAC ATC GCG GAT GAC AAC GAG ATC CGC AGC TTG	12087
Glu Tyr Gln Val Leu Tyr Ile Ala Asp Asp Asn Glu Ile Arg Ser Leu	
3870 3875 3880	
TTC CCG GGC CAC CCC CAC TCA GCC TAC GAG CAG ACA TTC CAG GGC GAT	12135
Phe Pro Gly His Pro His Ser Ala Tyr Glu Gln Thr Phe Gln Gly Asp	
3885 3890 3895	
GAG AGT GTC CGC ATA GAT GCC ATG GAT GTC CAT GTC AAG GCC GGC CGT	12183
Glu Ser Val Arg Ile Asp Ala Met Asp Val His Val Lys Ala Gly Arg	
3900 3905 3910	
GTC TAC TGG ACT AAC TGG CAC ACG GGC ACA ATC TCC TAC AGG AGC CTG	12231
Val Tyr Trp Thr Asn Trp His Thr Gly Thr Ile Ser Tyr Arg Ser Leu	
3915 3920 3925 3930	
CCC CCT GCC GCC CCT CCT ACC ACT TCC AAC CGC CAC CGG AGG CAG ATC	12279
Pro Pro Ala Ala Pro Pro Thr Thr Ser Asn Arg His Arg Arg Gln Ile	
3935 3940 3945	
GAC CGG GGT GTC ACC CAC CTC AAT ATT TCA GGG CTG AAG ATG CCG AGG	12327
Asp Arg Gly Val Thr His Leu Asn Ile Ser Gly Leu Lys Met Pro Arg	
3950 3955 3960	
GGT ATC GCT ATC GAC TGG GTG GCC GGG AAT GTG TAC TGG ACC GAT TCC	12375
Gly Ile Ala Ile Asp Trp Val Ala Gly Asn Val Tyr Trp Thr Asp Ser	
3965 3970 3975	
GGC CGA GAC GTG ATT GAG GTG GCG CAA ATG AAG GGC GAG AAC CGC AAG	12423
Gly Arg Asp Val Ile Glu Val Ala Gln Met Lys Gly Glu Asn Arg Lys	
3980 3985 3990	
ACG CTC ATC TCG GGC ATG ATT GAT GAG CCC CAT GCC ATC GTG GTG GAC	12471
Thr Leu Ile Ser Gly Met Ile Asp Glu Pro His Ala Ile Val Val Asp	
3995 4000 4005 4010	
CCT CTG AGG GGC ACC ATG TAC TGG TCA GAC TGG GGG AAC CAC CCC AAG	12519
Pro Leu Arg Gly Thr Met Tyr Trp Ser Asp Trp Gly Asn His Pro Lys	
4015 4020 4025	
ATT GAA ACA GCA GCG ATG GAT GGC ACC CTT CGG GAG ACT CTC GTG CAA	12567
Ile Glu Thr Ala Ala Met Asp Gly Thr Leu Arg Glu Thr Leu Val Gln	
4030 4035 4040	

FIG. 12A

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(Sheet 38 of 91)

GAC AAC ATT CAG TGG CCT ACA GGG CTG GCT GTG GAC TAT CAC AAT GAA Asp Asn Ile Gln Trp Pro Thr Gly Leu Ala Val Asp Tyr His Asn Glu 4045 4050 4055	12615
CGG CTC TAC TGG GCA GAT GCC AAG CTT TCG GTC ATC GGC AGC ATC CGG Arg Leu Tyr Trp Ala Asp Ala Lys Leu Ser Val Ile Gly Ser Ile Arg 4060 4065 4070	12663
CTC AAC GGC ACT GAC CCC ATT GTG GCT GCT GAC AGC AAA CGA GGC CTA Leu Asn Gly Thr Asp Pro Ile Val Ala Ala Asp Ser Lys Arg Gly Leu 4075 4080 4085 4090	12711
AGT CAC CCC TTC AGC ATC GAT GTG TTT GAA GAC TAC ATC TAC GGA GTC Ser His Pro Phe Ser Ile Asp Val Phe Glu Asp Tyr Ile Tyr Gly Val 4095 4100 4105	12759
ACT TAC ATC AAT AAT CGT GTC TTC AAG ATC CAC AAG TTT GGA CAC AGC Thr Tyr Ile Asn Asn Arg Val Phe Lys Ile His Lys Phe Gly His Ser 4110 4115 4120	12807
CCC TTG TAC AAC CTA ACT GGG GGC CTG AGC CAT GCC TCT GAT GTA GTC Pro Leu Tyr Asn Leu Thr Gly Gly Leu Ser His Ala Ser Asp Val Val 4125 4130 4135	12855
CTT TAC CAT CAA CAC AAG CAG CCT GAA GTG ACC AAC CCC TGT GAC CGC Leu Tyr His Gln His Lys Gln Pro Glu Val Thr Asn Pro Cys Asp Arg 4140 4145 4150	12903
AAG AAA TGC GAA TGG CTG TGT CTG CTG AGC CCC AGC GGG CCT GTC TGC Lys Lys Cys Glu Trp Leu Cys Leu Leu Ser Pro Ser Gly Pro Val Cys 4155 4160 4165 4170	12951
ACC TGT CCC AAT GGA AAG AGG CTG GAT AAT GGC ACC TGT GTG CCT GTG Thr Cys Pro Asn Gly Lys Arg Leu Asp Asn Gly Thr Cys Val Pro Val 4175 4180 4185	12999
CCC TCT CCA ACA CCC CCT CCA GAT GCC CCT AGG CCT GGA ACC TGC ACT Pro Ser Pro Thr Pro Pro Pro Asp Ala Pro Arg Pro Gly Thr Cys Thr 4190 4195 4200	13047
CTG CAG TGC TTC AAT GGT GGT AGT TGT TTC CTC AAC GCT CGG AGG CAG Leu Gln Cys Phe Asn Gly Gly Ser Cys Phe Leu Asn Ala Arg Arg Gln 4205 4210 4215	13095
CCC AAG TGC CGT TGC CAG CCC CGT TAC ACA GGC GAT AAG TGT GAG CTG Pro Lys Cys Arg Cys Gln Pro Arg Tyr Thr Gly Asp Lys Cys Glu Leu 4220 4225 4230	13143
GAT CAG TGC TGG GAA TAC TGT CAC AAC GGA GGC ACC TGT GCG GCT TCC Asp Gln Cys Trp Glu Tyr Cys His Asn Gly Gly Thr Cys Ala Ala Ser 4235 4240 4245 4250	13191
CCA TCT GGC ATG CCC ACG TGC CGC TGT CCC ACT GGC TTC ACG GGC CCC Pro Ser Gly Met Pro Thr Cys Arg Cys Pro Thr Gly Phe Thr Gly Pro 4255 4260 4265	13239
AAA TGC ACC GCA CAG GTG TGT GCA GGC TAC TGC TCT AAC AAC AGC ACC Lys Cys Thr Ala Gln Val Cys Ala Gly Tyr Cys Ser Asn Asn Ser Thr 4270 4275 4280	13287

FIG. 12A

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(Sheet 39 of 91)

TGC ACC GTC AAC CAG GGC AAC CAG CCC CAG TGC CGA TGT CTA CCT GGC 13335
 Cys Thr Val Asn Gln Gly Asn Gln Pro Gln Cys Arg Cys Leu Pro Gly
 4285 4290 4295

TTC CTG GGC GAC CGT TGC CAG TAC CGG CAG TGC TCT GGC TTC TGT GAG 13383
 Phe Leu Gly Asp Arg Cys Gln Tyr Arg Gln Cys Ser Gly Phe Cys Glu
 4300 4305 4310

AAC TTT GGC ACC TGT CAG ATG GCT GCT GAT GGC TCC CGA CAA TGT CGC 13431
 Asn Phe Gly Thr Cys Gln Met Ala Ala Asp Gly Ser Arg Gln Cys Arg
 4315 4320 4325 4330

TGC ACC GTC TAC TTT GAG GGA CCA AGG TGT GAG GTG AAC AAG TGT AGT 13479
 Cys Thr Val Tyr Phe Glu Gly Pro Arg Cys Glu Val Asn Lys Cys Ser
 4335 4340 4345

CGC TGT CTC CAA GGC GCC TGT GTG GTC AAT AAG CAG ACC GGA GAT GTC 13527
 Arg Cys Leu Gln Gly Ala Cys Val Val Asn Lys Gln Thr Gly Asp Val
 4350 4355 4360

ACA TGC AAC TGC ACT GAT GGC CGG GTA GCC CCC AGT TGT CTC ACC TGC 13575
 Thr Cys Asn Cys Thr Asp Gly Arg Val Ala Pro Ser Cys Leu Thr Cys
 4365 4370 4375

ATC GAT CAC TGT AGC AAT GGT GGC TCC TGC ACC ATG AAC AGC AAG ATG 13623
 Ile Asp His Cys Ser Asn Gly Gly Ser Cys Thr Met Asn Ser Lys Met
 4380 4385 4390

ATG CCT GAG TGC CAG TGC CCG CCC CAT ATG ACA GGA CCC CGG TGC CAG 13671
 Met Pro Glu Cys Gln Cys Pro Pro His Met Thr Gly Pro Arg Cys Gln
 4395 4400 4405 4410

GAG CAG GTT GTT AGT CAG CAA CAG CCT GGG CAT ATG GCC TCC ATC CTG 13719
 Glu Gln Val Val Ser Gln Gln Gln Pro Gly His Met Ala Ser Ile Leu
 4415 4420 4425

ATC CCT CTG CTG CTG CTT CTC CTG CTG CTT CTG GTG GCT GGC GTG GTG 13767
 Ile Pro Leu Leu Leu Leu Leu Leu Leu Leu Val Ala Gly Val Val
 4430 4435 4440

TTC TGG TAT AAG CGG CGA GTC CGA GGG GCT AAG GGC TTC CAG CAC CAG 13815
 Phe Trp Tyr Lys Arg Arg Val Arg Gly Ala Lys Gly Phe Gln His Gln
 4445 4450 4455

CGG ATG ACC AAT GGG GCC ATG AAT GTG GAA ATT GGA AAC CCT ACC TAC 13863
 Arg Met Thr Asn Gly Ala Met Asn Val Glu Ile Gly Asn Pro Thr Tyr
 4460 4465 4470

AAG ATG TAT GAA GGT GGA GAG CCC GAT GAT GTC GGG GGC CTA CTG GAT 13911
 Lys Met Tyr Glu Gly Gly Glu Pro Asp Asp Val Gly Gly Leu Leu Asp
 4475 4480 4485 4490

GCT GAT TTT GCC CTT GAC CCT GAC AAG CCT ACC AAC TTC ACC AAC CCA 13959
 Ala Asp Phe Ala Leu Asp Pro Asp Lys Pro Thr Asn Phe Thr Asn Pro
 4495 4500 4505

GTG TAT GCC ACG CTC TAC ATG GGG GGC CAC GGC AGC CGC CAT TCC CTG 14007
 Val Tyr Ala Thr Leu Tyr Met Gly Gly His Gly Ser Arg His Ser Leu
 4510 4515 4520

FIG. 12A

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(Sheet 40 of 91)

GCC AGC ACG GAC GAG AAG CGA GAA CTG CTG GGC CGG GGA CCT GAA GAC 14055
Ala Ser Thr Asp Glu Lys Arg Glu Leu Leu Gly Arg Gly Pro Glu Asp
4525 4530 4535

GAG ATA GGA GAT CCC TTG GCA TAGGGCCCTG CCCCACGGA TGTCCCCAGA AAGC 14110
CCCCTGCCAC ATGAGTCTTT CAATGAACCC CCTCCCCAGC CGGCCCTTCT CCGGCCCTGC 14170
Glu Ile Gly Asp Pro Leu Ala
4540 4545

CGGGTGATACA AATGTAAAAA TGAAGGAATT ACTTTTTATA TGTGAGCGAG CAAGCGAGCA 14230
AGCACAGTAT TATCTCTTTG CATTTCCTTC CTGCCTGCTC CTCAGTATCC CCCCCATGCT 14290
GCCTTGAGGG GGCAGGGGAGG GCTTTGTGGC TCAAAGGTAT GAAGGAGTCC ACATGTTCCC 14350
TACCGAGCAT ACCCCTGGAA GCCTGGCGGC ACGGCCTCCC CACCACGCCT GTGCAAGACA 14410
CTCAACGGGG CTCCGTGTCC CAGCTTTCCT TTCCTTGGCT CTCTGGGGTT AGTTCAGGGG 14470
AGGTGGAGTC CTCTGCTGAC CCTGTCTGGA AGATTTGGCT CTAGCTGAGG AAGGAGTCTT 14530
TTAGTTGAGG GAAGTCACCC CAAACCCAG CTCCCCTTT CAGGGGCACC TCTCAGATGG 14590
CCATGCTCAG TATCCCTTCC AGACAGGCC TCCCTCTCT AGCGCCCCCT CTGTGGCTCC 14650
TAGGGCTGAA CACATTCTTT GGTAAGTGTG CCCCAGCCT CCCATCCCC TGAGGGCCAG 14710
GAAGAGTCGG GGCACACCAA GGAAGGGCAA GCGGGCAGCC CCATTTTGGG GACGTGAACG 14770
TTTTAATAAT TTTTGCTGAA TTCCTTTACA ACTAAATAAC ACAGATATTG TTATAAATAA 14830
AATTGTAAAA AAAAAAAAAA

FIG. 12A

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(Sheet 41 of 91)

Met Leu Thr Pro Pro Leu Leu Leu Leu Val Pro Leu Leu Ser Ala Leu
 1 5 10 15
 Val Ser Gly Ala Thr Met Asp Ala Pro Lys Thr Cys Ser Pro Lys Gln
 20 25 30
 Phe Ala Cys Arg Asp Gln Ile Thr Cys Ile Ser Lys Gly Trp Arg Cys
 35 40 45
 Asp Gly Glu Arg Asp Cys Pro Asp Gly Ser Asp Glu Ala Pro Glu Ile
 50 55 60
 Cys Pro Gln Ser Lys Ala Gln Arg Cys Pro Pro Asn Glu His Ser Cys
 65 70 75 80
 Leu Gly Thr Glu Leu Cys Val Pro Met Ser Arg Leu Cys Asn Gly Ile
 85 90 95
 Gln Asp Cys Met Asp Gly Ser Asp Glu Gly Ala His Cys Arg Glu Leu
 100 105 110
 Arg Ala Asn Cys Ser Arg Met Gly Cys Gln His His Cys Val Pro Thr
 115 120 125
 Pro Ser Gly Pro Thr Cys Tyr Cys Asn Ser Ser Phe Gln Leu Glu Ala
 130 135 140
 Asp Gly Lys Thr Cys Lys Asp Phe Asp Glu Cys Ser Val Tyr Gly Thr
 145 150 155 160
 Cys Ser Gln Leu Cys Thr Asn Thr Asp Gly Ser Phe Thr Cys Gly Cys
 165 170 175
 Val Glu Gly Tyr Leu Leu Gln Pro Asp Asn Arg Ser Cys Lys Ala Lys
 180 185 190
 Asn Glu Pro Val Asp Arg Pro Pro Val Leu Leu Ile Ala Asn Ser Gln
 195 200 205
 Asn Ile Leu Ala Thr Tyr Leu Ser Gly Ala Gln Val Ser Thr Ile Thr
 210 215 220
 Pro Thr Ser Thr Arg Gln Thr Thr Ala Met Asp Phe Ser Tyr Ala Asn
 225 230 235 240
 Glu Thr Val Cys Trp Val His Val Gly Asp Ser Ala Ala Gln Thr Gln
 245 250 255
 Leu Lys Cys Ala Arg Met Pro Gly Leu Lys Gly Phe Val Asp Glu His
 260 265 270
 Thr Ile Asn Ile Ser Leu Ser Leu His His Val Glu Gln Met Ala Ile
 275 280 285
 Asp Trp Leu Thr Gly Asn Phe Tyr Phe Val Asp Asp Ile Asp Asp Arg
 290 295 300
 Ile Phe Val Cys Asn Arg Asn Gly Asp Thr Cys Val Thr Leu Leu Asp
 305 310 315 320
 Leu Glu Leu Tyr Asn Pro Lys Gly Ile Ala Leu Asp Pro Ala Met Gly
 325 330 335
 Lys Val Phe Phe Thr Asp Tyr Gly Gln Ile Pro Lys Val Glu Arg Cys
 340 345 350
 Asp Met Asp Gly Gln Asn Arg Thr Lys Leu Val Asp Ser Lys Ile Val
 355 360 365
 Phe Pro His Gly Ile Thr Leu Asp Leu Val Ser Arg Leu Val Tyr Trp
 370 375 380
 Ala Asp Ala Tyr Leu Asp Tyr Ile Glu Val Val Asp Tyr Glu Gly Lys
 385 390 395 400
 Gly Arg Gln Thr Ile Ile Gln Gly Ile Leu Ile Glu His Leu Tyr Gly
 405 410 415
 Leu Thr Val Phe Glu Asn Tyr Leu Tyr Ala Thr Asn Ser Asp Asn Ala
 420 425 430
 Asn Thr Gln Gln Lys Thr Ser Val Ile Arg Val Asn Arg Phe Asn Ser
 435 440 445
 Thr Glu Tyr Gln Val Val Thr Arg Val Asp Lys Gly Gly Ala Leu His
 450 455 460

FIG. 12B

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(Sheet 42 of 91)

Ile	Tyr	His	Gln	Arg	Arg	Gln	Pro	Arg	Val	Arg	Ser	His	Ala	Cys	Glu
465					470					475					480
Asn	Asp	Gln	Tyr	Gly	Lys	Pro	Gly	Gly	Cys	Ser	Asp	Ile	Cys	Leu	Leu
				485					490						495
Ala	Asn	Ser	His	Lys	Ala	Arg	Thr	Cys	Arg	Cys	Arg	Ser	Gly	Phe	Ser
			500					505					510		
Leu	Gly	Ser	Asp	Gly	Lys	Ser	Cys	Lys	Lys	Pro	Glu	His	Glu	Leu	Phe
			515					520					525		
Leu	Val	Tyr	Gly	Lys	Gly	Arg	Pro	Gly	Ile	Ile	Arg	Gly	Met	Asp	Met
			530					535				540			
Gly	Ala	Lys	Val	Pro	Asp	Glu	His	Met	Ile	Pro	Ile	Glu	Asn	Leu	Met
545					550					555					560
Asn	Pro	Arg	Ala	Leu	Asp	Phe	His	Ala	Glu	Thr	Gly	Phe	Ile	Tyr	Phe
				565					570						575
Ala	Asp	Thr	Thr	Ser	Tyr	Leu	Ile	Gly	Arg	Gln	Lys	Ile	Asp	Gly	Thr
			580					585					590		
Glu	Arg	Glu	Thr	Ile	Leu	Lys	Asp	Gly	Ile	His	Asn	Val	Glu	Gly	Val
			595					600					605		
Ala	Val	Asp	Trp	Met	Gly	Asp	Asn	Leu	Tyr	Trp	Thr	Asp	Asp	Gly	Pro
			610					615					620		
Lys	Lys	Thr	Ile	Ser	Val	Ala	Arg	Leu	Glu	Lys	Ala	Ala	Gln	Thr	Arg
625					630					635					640
Lys	Thr	Leu	Ile	Glu	Gly	Lys	Met	Thr	His	Pro	Arg	Ala	Ile	Val	Val
			645						650						655
Asp	Pro	Leu	Asn	Gly	Trp	Met	Tyr	Trp	Thr	Asp	Trp	Glu	Glu	Asp	Pro
			660					665					670		
Lys	Asp	Ser	Arg	Arg	Gly	Arg	Leu	Glu	Arg	Ala	Trp	Met	Asp	Gly	Ser
			675					680					685		
His	Arg	Asp	Ile	Phe	Val	Thr	Ser	Lys	Thr	Val	Leu	Trp	Pro	Asn	Gly
			690					695				700			
Leu	Ser	Leu	Asp	Ile	Pro	Ala	Gly	Arg	Leu	Tyr	Trp	Val	Asp	Ala	Phe
705					710					715					720
Tyr	Asp	Arg	Ile	Glu	Thr	Ile	Leu	Leu	Asn	Gly	Thr	Asp	Arg	Lys	Ile
			725						730						735
Val	Tyr	Glu	Gly	Pro	Glu	Leu	Asn	His	Ala	Phe	Gly	Leu	Cys	His	His
			740					745					750		
Gly	Asn	Tyr	Leu	Phe	Trp	Thr	Glu	Tyr	Arg	Ser	Gly	Ser	Val	Tyr	Arg
			755					760					765		
Leu	Glu	Arg	Gly	Val	Ala	Gly	Ala	Pro	Pro	Thr	Val	Thr	Leu	Leu	Arg
			770					775					780		
Ser	Glu	Arg	Pro	Pro	Ile	Phe	Glu	Ile	Arg	Met	Tyr	Asp	Ala	His	Glu
785					790					795					800
Gln	Gln	Val	Gly	Thr	Asn	Lys	Cys	Arg	Val	Asn	Asn	Gly	Gly	Cys	Ser
			805						810					815	
Ser	Leu	Cys	Leu	Ala	Thr	Pro	Gly	Ser	Arg	Gln	Cys	Ala	Cys	Ala	Glu
			820					825					830		
Asp	Gln	Val	Leu	Asp	Thr	Asp	Gly	Val	Thr	Cys	Leu	Ala	Asn	Pro	Ser
			835					840					845		
Tyr	Val	Pro	Pro	Pro	Gln	Cys	Gln	Pro	Gly	Gln	Phe	Ala	Cys	Ala	Asn
			850					855					860		
Asn	Arg	Cys	Ile	Gln	Glu	Arg	Trp	Lys	Cys	Asp	Gly	Asp	Asn	Asp	Cys
865					870					875					880
Leu	Asp	Asn	Ser	Asp	Glu	Ala	Pro	Ala	Leu	Cys	His	Gln	His	Thr	Cys
			885						890						895
Pro	Ser	Asp	Arg	Phe	Lys	Cys	Glu	Asn	Asn	Arg	Cys	Ile	Pro	Asn	Arg
			900					905					910		
Trp	Leu	Cys	Asp	Gly	Asp	Asn	Asp	Cys	Gly	Asn	Ser	Glu	Asp	Glu	Ser
			915					920					925		

FIG. 12B

Asn Ala Thr Cys Ser Ala Arg Thr Cys Pro Pro Asn Gln Phe Ser Cys
 930 935 940
 Ala Ser Gly Arg Cys Ile Pro Ile Ser Trp Thr Cys Asp Leu Asp Asp
 945 950 955 960
 Asp Cys Gly Asp Arg Ser Asp Glu Ser Ala Ser Cys Ala Tyr Pro Thr
 965 970 975
 Cys Phe Pro Leu Thr Gln Phe Thr Cys Asn Asn Gly Arg Cys Ile Asn
 980 985 990
 Ile Asn Trp Arg Cys Asp Asn Asp Asn Asp Cys Gly Asp Asn Ser Asp
 995 1000 1005
 Glu Ala Gly Cys Ser His Ser Cys Ser Ser Thr Gln Phe Lys Cys Asn
 1010 1015 1020
 Ser Gly Arg Cys Ile Pro Glu His Trp Thr Cys Asp Gly Asp Asn Asp
 025 1030 1035 1040
 Cys Gly Asp Tyr Ser Asp Glu Thr His Ala Asn Cys Thr Asn Gln Ala
 1045 1050 1055
 Thr Arg Pro Pro Gly Gly Cys His Ser Asp Glu Phe Gln Cys Pro Leu
 1060 1065 1070
 Asp Gly Leu Cys Ile Pro Leu Arg Trp Arg Cys Asp Gly Asp Thr Asp
 1075 1080 1085
 Cys Met Asp Ser Ser Asp Glu Lys Ser Cys Glu Gly Val Thr His Val
 1090 1095 1100
 Cys Asp Pro Asn Val Lys Phe Gly Cys Lys Asp Ser Ala Arg Cys Ile
 105 1110 1115 1120
 Ser Lys Ala Trp Val Cys Asp Gly Asp Ser Asp Cys Glu Asp Asn Ser
 1125 1130 1135
 Asp Glu Glu Asn Cys Glu Ala Leu Ala Cys Arg Pro Pro Ser His Pro
 1140 1145 1150
 Cys Ala Asn Asn Thr Ser Val Cys Leu Pro Pro Asp Lys Leu Cys Asp
 1155 1160 1165
 Gly Lys Asp Asp Cys Gly Asp Gly Ser Asp Glu Gly Glu Leu Cys Asp
 1170 1175 1180
 Gln Cys Ser Leu Asn Asn Gly Gly Cys Ser His Asn Cys Ser Val Ala
 185 1190 1195 1200
 Pro Gly Glu Gly Ile Val Cys Ser Cys Pro Leu Gly Met Glu Leu Gly
 1205 1210 1215
 Ser Asp Asn His Thr Cys Gln Ile Gln Ser Tyr Cys Ala Lys His Leu
 1220 1225 1230
 Lys Cys Ser Gln Lys Cys Asp Gln Asn Lys Phe Ser Val Lys Cys Ser
 1235 1240 1245
 Cys Tyr Glu Gly Trp Val Leu Glu Pro Asp Gly Glu Thr Cys Arg Ser
 1250 1255 1260
 Leu Asp Pro Phe Lys Leu Phe Ile Ile Phe Ser Asn Arg His Glu Ile
 265 1270 1275 1280
 Arg Arg Ile Asp Leu His Lys Gly Asp Tyr Ser Val Leu Val Pro Gly
 1285 1290 1295
 Leu Arg Asn Thr Ile Ala Leu Asp Phe His Leu Ser Gln Ser Ala Leu
 1300 1305 1310
 Tyr Trp Thr Asp Ala Val Glu Asp Lys Ile Tyr Arg Gly Lys Leu Leu
 1315 1320 1325
 Asp Asn Gly Ala Leu Thr Ser Phe Glu Val Val Ile Gln Tyr Gly Leu
 1330 1335 1340
 Ala Thr Pro Glu Gly Leu Ala Val Asp Trp Ile Ala Gly Asn Ile Tyr
 345 1350 1355 1360
 Trp Val Glu Ser Asn Leu Asp Gln Ile Glu Val Ala Lys Leu Asp Gly
 1365 1370 1375
 Thr Leu Arg Thr Thr Leu Leu Ala Gly Asp Ile Glu His Pro Arg Ala
 1380 1385 1390
 Ile Ala Leu Asp Pro Arg Asp Gly Ile Leu Phe Trp Thr Asp Trp Asp

FIG. 12B

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1395 1400 1405
 Ala Ser Leu Pro Arg Ile Glu Ala Ala Ser Met Ser Gly Ala Gly Arg
 1410 1415 1420
 Arg Thr Ile His Arg Glu Thr Gly Ser Gly Gly Cys Ala Asn Gly Leu
 425 1430 1435 1440
 Thr Val Asp Tyr Leu Glu Lys Arg Ile Leu Trp Ile Asp Ala Arg Ser
 1445 1450 1455
 Asp Ala Ile Tyr Ser Ala Arg Tyr Asp Gly Ser Gly His Met Glu Val
 1460 1465 1470
 Leu Arg Gly His Glu Phe Leu Ser His Pro Phe Ala Val Thr Leu Tyr
 1475 1480 1485
 Gly Gly Glu Val Tyr Trp Thr Asp Trp Arg Thr Asn Thr Leu Ala Lys
 1490 1495 1500
 Ala Asn Lys Trp Thr Gly His Asn Val Thr Val Val Gln Arg Thr Asn
 505 1510 1515 1520
 Thr Gln Pro Phe Asp Leu Gln Val Tyr His Pro Ser Arg Gln Pro Met
 1525 1530 1535
 Ala Pro Asn Pro Cys Glu Ala Asn Gly Gly Arg Gly Pro Cys Ser His
 1540 1545 1550
 Leu Cys Leu Ile Asn Tyr Asn Arg Thr Val Ser Trp Ala Cys Pro His
 1555 1560 1565
 Leu Met Lys Leu His Lys Asp Asn Thr Thr Cys Tyr Glu Phe Lys Lys
 1570 1575 1580
 Phe Leu Leu Tyr Ala Arg Gln Met Glu Ile Arg Gly Val Asp Leu Asp
 585 1590 1595 1600
 Ala Pro Tyr Tyr Asn Tyr Ile Ile Ser Phe Thr Val Pro Asp Ile Asp
 1605 1610 1615
 Asn Val Thr Val Leu Asp Tyr Asp Ala Arg Glu Gln Arg Val Tyr Trp
 1620 1625 1630
 Ser Asp Val Arg Thr Gln Ala Ile Lys Arg Ala Phe Ile Asn Gly Thr
 1635 1640 1645
 Gly Val Glu Thr Val Val Ser Ala Asp Leu Pro Asn Ala His Gly Leu
 1650 1655 1660
 Ala Val Asp Trp Val Ser Arg Asn Leu Phe Trp Thr Ser Tyr Asp Thr
 665 1670 1675 1680
 Asn Lys Lys Gln Ile Asn Val Ala Arg Leu Asp Gly Ser Phe Lys Asn
 1685 1690 1695
 Ala Val Val Gln Gly Leu Glu Gln Pro His Gly Leu Val Val His Pro
 1700 1705 1710
 Leu Arg Gly Lys Leu Tyr Trp Thr Asp Gly Asp Asn Ile Ser Met Ala
 1715 1720 1725
 Asn Met Asp Gly Ser Asn His Thr Leu Leu Phe Ser Gly Gln Lys Gly
 1730 1735 1740
 Pro Val Gly Leu Ala Ile Asp Phe Pro Glu Ser Lys Leu Tyr Trp Ile
 745 1750 1755 1760
 Ser Ser Gly Asn His Thr Ile Asn Arg Cys Asn Leu Asp Gly Ser Glu
 1765 1770 1775
 Leu Glu Val Ile Asp Thr Met Arg Ser Gln Leu Gly Lys Ala Thr Ala
 1780 1785 1790
 Leu Ala Ile Met Gly Asp Lys Leu Trp Trp Ala Asp Gln Val Ser Glu
 1795 1800 1805
 Lys Met Gly Thr Cys Asn Lys Ala Asp Gly Ser Gly Ser Val Val Leu
 1810 1815 1820
 Arg Asn Ser Thr Thr Leu Val Met His Met Lys Val Tyr Asp Glu Ser
 825 1830 1835 1840
 Ile Gln Leu Glu His Glu Gly Thr Asn Pro Cys Ser Val Asn Asn Gly
 1845 1850 1855
 Asp Cys Ser Gln Leu Cys Leu Pro Thr Ser Glu Thr Thr Arg Ser Cys
 1860 1865 1870

FIG. 12B

Met Cys Thr Ala Gly Tyr Ser Leu Arg Ser Gly Gln Gln Ala Cys Glu
 1875 1880 1885
 Gly Val Gly Ser Phe Leu Leu Tyr Ser Val His Glu Gly Ile Arg Gly
 1890 1895 1900
 Ile Pro Leu Asp Pro Asn Asp Lys Ser Asp Ala Leu Val Pro Val Ser
 905 1910 1915 1920
 Gly Thr Ser Leu Ala Val Gly Ile Asp Phe His Ala Glu Asn Asp Thr
 1925 1930 1935
 Ile Tyr Trp Val Asp Met Gly Leu Ser Thr Ile Ser Arg Ala Lys Arg
 1940 1945 1950
 Asp Gln Thr Trp Arg Glu Asp Val Val Thr Asn Gly Ile Gly Arg Val
 1955 1960 1965
 Glu Gly Ile Ala Val Asp Trp Ile Ala Gly Asn Ile Tyr Trp Thr Asp
 1970 1975 1980
 Gln Gly Phe Asp Val Ile Glu Val Ala Arg Leu Asn Gly Ser Phe Arg
 985 1990 1995 2000
 Tyr Val Val Ile Ser Gln Gly Leu Asp Lys Pro Arg Ala Ile Thr Val
 2005 2010 2015
 His Pro Glu Lys Gly Tyr Leu Phe Trp Thr Glu Trp Gly His Tyr Pro
 2020 2025 2030
 Arg Ile Glu Arg Ser Arg Leu Asp Gly Thr Glu Arg Val Val Leu Val
 2035 2040 2045
 Asn Val Ser Ile Ser Trp Pro Asn Gly Ile Ser Val Asp Tyr Gln Gly
 2050 2055 2060
 Gly Lys Leu Tyr Trp Cys Asp Ala Arg Met Asp Lys Ile Glu Arg Ile
 065 2070 2075 2080
 Asp Leu Glu Thr Gly Glu Asn Arg Glu Val Val Leu Ser Ser Asn Asn
 2085 2090 2095
 Met Asp Met Phe Ser Val Ser Val Phe Glu Asp Phe Ile Tyr Trp Ser
 2100 2105 2110
 Asp Arg Thr His Ala Asn Gly Ser Ile Lys Arg Gly Cys Lys Asp Asn
 2115 2120 2125
 Ala Thr Asp Ser Val Pro Leu Arg Thr Gly Ile Gly Val Gln Leu Lys
 2130 2135 2140
 Asp Ile Lys Val Phe Asn Arg Asp Arg Gln Lys Gly Thr Asn Val Cys
 145 2150 2155 2160
 Ala Val Ala Asn Gly Gly Cys Gln Gln Leu Cys Leu Tyr Arg Gly Gly
 2165 2170 2175
 Gly Gln Arg Ala Cys Ala Cys Ala His Gly Met Leu Ala Glu Asp Gly
 2180 2185 2190
 Ala Ser Cys Arg Glu Tyr Ala Gly Tyr Leu Leu Tyr Ser Glu Arg Thr
 2195 2200 2205
 Ile Leu Lys Ser Ile His Leu Ser Asp Glu Arg Asn Leu Asn Ala Pro
 2210 2215 2220
 Val Gln Pro Phe Glu Asp Pro Glu His Met Lys Asn Val Ile Ala Leu
 225 2230 2235 2240
 Ala Phe Asp Tyr Arg Ala Gly Thr Ser Pro Gly Thr Pro Asn Arg Ile
 2245 2250 2255
 Phe Phe Ser Asp Ile His Phe Gly Asn Ile Gln Gln Ile Asn Asp Asp
 2260 2265 2270
 Gly Ser Gly Arg Thr Thr Ile Val Glu Asn Val Gly Ser Val Glu Gly
 2275 2280 2285
 Leu Ala Tyr His Arg Gly Trp Asp Thr Leu Tyr Trp Thr Ser Tyr Thr
 2290 2295 2300
 Thr Ser Thr Ile Thr Arg His Thr Val Asp Gln Thr Arg Pro Gly Ala
 305 2310 2315 2320
 Phe Glu Arg Glu Thr Val Ile Thr Met Ser Gly Asp Asp His Pro Arg
 2325 2330 2335
 Ala Phe Val Leu Asp Glu Cys Gln Asn Leu Met Phe Trp Thr Asn Trp

FIG. 12B

2340 2345 2350
 Asn Glu Leu His Pro Ser Ile Met Arg Ala Ala Leu Ser Gly Ala Asn
 2355 2360 2365
 Val Leu Thr Leu Ile Glu Lys Asp Ile Arg Thr Pro Asn Gly Leu Ala
 2370 2375 2380
 Ile Asp His Arg Ala Glu Lys Leu Tyr Phe Ser Asp Ala Thr Leu Asp
 385 2390 2395 2400
 Lys Ile Glu Arg Cys Glu Tyr Asp Gly Ser His Arg Tyr Val Ile Leu
 2405 2410 2415
 Lys Ser Glu Pro Val His Pro Phe Gly Leu Ala Val Tyr Gly Glu His
 2420 2425 2430
 Ile Phe Trp Thr Asp Trp Val Arg Arg Ala Val Gln Arg Ala Asn Lys
 2435 2440 2445
 Tyr Val Gly Ser Asp Met Lys Leu Leu Arg Val Asp Ile Pro Gln Gln
 2450 2455 2460
 Pro Met Gly Ile Ile Ala Val Ala Asn Asp Thr Asn Ser Cys Glu Leu
 465 2470 2475 2480
 Ser Pro Cys Arg Ile Asn Asn Gly Gly Cys Gln Asp Leu Cys Leu Leu
 2485 2490 2495
 Thr His Gln Gly His Val Asn Cys Ser Cys Arg Gly Gly Arg Ile Leu
 2500 2505 2510
 Gln Glu Asp Phe Thr Cys Arg Ala Val Asn Ser Ser Cys Arg Ala Gln
 2515 2520 2525
 Asp Glu Phe Glu Cys Ala Asn Gly Glu Cys Ile Ser Phe Ser Leu Thr
 2530 2535 2540
 Cys Asp Gly Val Ser His Cys Lys Asp Lys Ser Asp Glu Lys Pro Ser
 545 2550 2555 2560
 Tyr Cys Asn Ser Arg Arg Cys Lys Lys Thr Phe Arg Gln Cys Asn Asn
 2565 2570 2575
 Gly Arg Cys Val Ser Asn Met Leu Trp Cys Asn Gly Val Asp Tyr Cys
 2580 2585 2590
 Gly Asp Gly Ser Asp Glu Ile Pro Cys Asn Lys Thr Ala Cys Gly Val
 2595 2600 2605
 Gly Glu Phe Arg Cys Arg Asp Gly Ser Cys Ile Gly Asn Ser Ser Arg
 2610 2615 2620
 Cys Asn Gln Phe Val Asp Cys Glu Asp Ala Ser Asp Glu Met Asn Cys
 625 2630 2635 2640
 Ser Ala Thr Asp Cys Ser Ser Tyr Phe Arg Leu Gly Val Lys Gly Val
 2645 2650 2655
 Leu Phe Gln Pro Cys Glu Arg Thr Ser Leu Cys Tyr Ala Pro Ser Trp
 2660 2665 2670
 Val Cys Asp Gly Ala Asn Asp Cys Gly Asp Tyr Ser Asp Glu Arg Asp
 2675 2680 2685
 Cys Pro Gly Val Lys Arg Pro Arg Cys Pro Leu Asn Tyr Phe Ala Cys
 2690 2695 2700
 Pro Ser Gly Arg Cys Ile Pro Met Ser Trp Thr Cys Asp Lys Glu Asp
 705 2710 2715 2720
 Asp Cys Glu Asn Gly Glu Asp Glu Thr His Cys Asn Lys Phe Cys Ser
 2725 2730 2735
 Glu Ala Gln Phe Glu Cys Gln Asn His Arg Cys Ile Ser Lys Gln Trp
 2740 2745 2750
 Leu Cys Asp Gly Ser Asp Asp Cys Gly Asp Gly Ser Asp Glu Ala Ala
 2755 2760 2765
 His Cys Glu Gly Lys Thr Cys Gly Pro Ser Ser Phe Ser Cys Pro Gly
 2770 2775 2780
 Thr His Val Cys Val Pro Glu Arg Trp Leu Cys Asp Gly Asp Lys Asp
 785 2790 2795 2800
 Cys Thr Asp Gly Ala Asp Glu Ser Val Thr Ala Gly Cys Leu Tyr Asn
 2805 2810 2815

FIG. 12B

Ser Thr Cys Asp Asp Arg Glu Phe Met Cys Gln Asn Arg Leu Cys Ile
 2820 2825 2830
 Pro Lys His Phe Val Cys Asp His Asp Arg Asp Cys Ala Asp Gly Ser
 2835 2840 2845
 Asp Glu Ser Pro Glu Cys Glu Tyr Pro Thr Cys Gly Pro Asn Glu Phe
 2850 2855 2860
 Arg Cys Ala Asn Gly Arg Cys Leu Ser Ser Arg Gln Trp Glu Cys Asp
 865 2870 2875 2880
 Gly Glu Asn Asp Cys His Asp His Ser Asp Glu Ala Pro Lys Asn Pro
 2885 2890 2895
 His Cys Thr Ser Pro Glu His Lys Cys Asn Ala Ser Ser Gln Phe Leu
 2900 2905 2910
 Cys Ser Ser Gly Arg Cys Val Ala Glu Ala Leu Leu Cys Asn Gly Gln
 2915 2920 2925
 Asp Asp Cys Gly Asp Gly Ser Asp Glu Arg Gly Cys His Val Asn Glu
 2930 2935 2940
 Cys Leu Ser Arg Lys Leu Ser Gly Cys Ser Gln Asp Cys Glu Asp Leu
 945 2950 2955 2960
 Lys Ile Gly Phe Lys Cys Arg Cys Arg Pro Gly Phe Arg Leu Lys Asp
 2965 2970 2975
 Asp Gly Arg Thr Cys Ala Asp Leu Asp Glu Cys Ser Thr Thr Phe Pro
 2980 2985 2990
 Cys Ser Gln Leu Cys Ile Asn Thr His Gly Ser Tyr Lys Cys Leu Cys
 2995 3000 3005
 Val Glu Gly Tyr Ala Pro Arg Gly Gly Asp Pro His Ser Cys Lys Ala
 3010 3015 3020
 Val Thr Asp Glu Glu Pro Phe Leu Ile Phe Ala Asn Arg Tyr Tyr Leu
 025 3030 3035 3040
 Arg Lys Leu Asn Leu Asp Gly Ser Asn Tyr Thr Leu Leu Lys Gln Gly
 3045 3050 3055
 Leu Asn Asn Ala Val Ala Leu Ala Phe Asp Tyr Arg Glu Gln Met Ile
 3060 3065 3070
 Tyr Trp Thr Gly Val Thr Thr Gln Gly Ser Met Ile Arg Arg Met His
 3075 3080 3085
 Leu Asn Gly Ser Asn Val Gln Val Leu His Arg Thr Gly Leu Ser Asn
 3090 3095 3100
 Pro Asp Gly Leu Ala Val Asp Trp Val Gly Gly Asn Leu Tyr Trp Cys
 105 3110 3115 3120
 Asp Lys Gly Arg Asp Thr Ile Glu Val Ser Lys Leu Asn Gly Ala Tyr
 3125 3130 3135
 Arg Thr Val Leu Val Ser Ser Gly Leu Arg Glu Pro Arg Ala Leu Val
 3140 3145 3150
 Val Asp Val Gln Asn Gly Tyr Leu Tyr Trp Thr Asp Trp Gly Asp His
 3155 3160 3165
 Ser Leu Ile Gly Arg Ile Gly Met Asp Gly Ser Gly Arg Ser Ile Ile
 3170 3175 3180
 Val Asp Thr Lys Ile Thr Trp Pro Asn Gly Leu Thr Val Asp Tyr Val
 185 3190 3195 3200
 Thr Glu Arg Ile Tyr Trp Ala Asp Ala Arg Glu Asp Tyr Ile Glu Phe
 3205 3210 3215
 Ala Ser Leu Asp Gly Ser Asn Arg His Val Val Leu Ser Gln Asp Ile
 3220 3225 3230
 Pro His Ile Phe Ala Leu Thr Leu Phe Glu Asp Tyr Val Tyr Trp Thr
 3235 3240 3245
 Asp Trp Glu Thr Lys Ser Ile Asn Arg Ala His Lys Thr Thr Gly Ala
 3250 3255 3260
 Asn Lys Thr Leu Leu Ile Ser Thr Leu His Arg Pro Met Asp Leu His
 265 3270 3275 3280
 Val Phe His Ala Leu Arg Gln Pro Asp Val Pro Asn His Pro Cys Lys

FIG. 12B

3285 3290 3295
 Val Asn Asn Gly Gly Cys Ser Asn Leu Cys Leu Leu Ser Pro Gly Gly
 3300 3305 3310
 Gly His Lys Cys Ala Cys Pro Thr Asn Phe Tyr Leu Gly Gly Asp Gly
 3315 3320 3325
 Arg Thr Cys Val Ser Asn Cys Thr Ala Ser Gln Phe Val Cys Lys Asn
 3330 3335 3340
 Asp Lys Cys Ile Pro Phe Trp Trp Lys Cys Asp Thr Glu Asp Asp Cys
 345 3350 3355 3360
 Gly Asp His Ser Asp Glu Pro Pro Asp Cys Pro Glu Phe Lys Cys Arg
 3365 3370 3375
 Pro Gly Gln Phe Gln Cys Ser Thr Gly Ile Cys Thr Asn Pro Ala Phe
 3380 3385 3390
 Ile Cys Asp Gly Asp Asn Asp Cys Gln Asp Asn Ser Asp Glu Ala Asn
 3395 3400 3405
 Cys Asp Ile His Val Cys Leu Pro Ser Gln Phe Lys Cys Thr Asn Thr
 3410 3415 3420
 Asn Arg Cys Ile Pro Gly Ile Phe Arg Cys Asn Gly Gln Asp Asn Cys
 425 3430 3435 3440
 Gly Asp Gly Glu Asp Glu Arg Asp Cys Pro Glu Val Thr Cys Ala Pro
 3445 3450 3455
 Asn Gln Phe Gln Cys Ser Ile Thr Lys Arg Cys Ile Pro Arg Val Trp
 3460 3465 3470
 Val Cys Asp Arg Asp Asn His Cys Val Asp Gly Ser Asp Glu Pro Ala
 3475 3480 3485
 Asn Cys Thr Gln Met Thr Cys Gly Val Asp Glu Phe Arg Cys Lys Asp
 3490 3495 3500
 Ser Gly Arg Cys Ile Pro Ala Arg Trp Lys Cys Asp Gly Glu Asp Asp
 505 3510 3515 3520
 Cys Gly Asp Gly Ser Asp Glu Pro Lys Glu Glu Cys Asp Glu Arg Thr
 3525 3530 3535
 Cys Glu Pro Tyr Gln Phe Arg Cys Lys Asn Asn Arg Cys Val Pro Gly
 3540 3545 3550
 Arg Trp Gln Cys Asp Tyr Asp Asn Asp Cys Gly Asp Asn Ser Asp Glu
 3555 3560 3565
 Glu Ser Cys Thr Pro Arg Pro Cys Ser Glu Ser Glu Phe Phe Cys Ala
 3570 3575 3580
 Asn Gly Arg Cys Ile Ala Gly Arg Trp Lys Cys Asp Gly Asp His Asp
 585 3590 3595 3600
 Cys Ala Asp Gly Ser Asp Glu Lys Asp Cys Thr Pro Arg Cys Asp Met
 3605 3610 3615
 Asp Gln Phe Gln Cys Lys Ser Gly His Cys Ile Pro Leu Arg Trp Pro
 3620 3625 3630
 Cys Asp Ala Asp Ala Asp Cys Met Asp Gly Ser Asp Glu Glu Ala Cys
 3635 3640 3645
 Gly Thr Gly Val Arg Thr Cys Pro Leu Asp Glu Phe Gln Cys Asn Asn
 3650 3655 3660
 Thr Leu Cys Lys Pro Leu Ala Trp Lys Cys Asp Gly Glu Asp Asp Cys
 665 3670 3675 3680
 Gly Asp Asn Ser Asp Glu Asn Pro Glu Glu Cys Ala Arg Phe Ile Cys
 3685 3690 3695
 Pro Pro Asn Arg Pro Phe Arg Cys Lys Asn Asp Arg Val Cys Leu Trp
 3700 3705 3710
 Ile Gly Arg Gln Cys Asp Gly Val Asp Asn Cys Gly Asp Gly Thr Asp
 3715 3720 3725
 Glu Glu Asp Cys Glu Pro Pro Thr Ala Gln Asn Pro His Cys Lys Asp
 3730 3735 3740
 Lys Lys Glu Phe Leu Cys Arg Asn Gln Arg Cys Leu Ser Ser Ser Leu
 745 3750 3755 3760

FIG. 12B

Arg Cys Asn Met Phe Asp Asp Cys Gly Asp Gly Ser Asp Glu Glu Asp
 3765 3770 3775
 Cys Ser Ile Asp Pro Lys Leu Thr Ser Cys Ala Thr Asn Ala Ser Met
 3780 3785 3790
 Cys Gly Asp Glu Ala Arg Cys Val Arg Thr Glu Lys Ala Ala Tyr Cys
 3795 3800 3805
 Ala Cys Arg Ser Gly Phe His Thr Val Pro Gly Gln Pro Gly Cys Gln
 3810 3815 3820
 Asp Ile Asn Glu Cys Leu Arg Phe Gly Thr Cys Ser Gln Leu Trp Asn
 825 3830 3835 3840
 Lys Pro Lys Gly Gly His Leu Cys Ser Cys Ala Arg Asn Phe Met Lys
 3845 3850 3855
 Thr His Asn Thr Cys Lys Ala Glu Gly Ser Glu Tyr Gln Val Leu Tyr
 3860 3865 3870
 Ile Ala Asp Asp Asn Glu Ile Arg Ser Leu Phe Pro Gly His Pro His
 3875 3880 3885
 Ser Ala Tyr Glu Gln Thr Phe Gln Gly Asp Glu Ser Val Arg Ile Asp
 3890 3895 3900
 Ala Met Asp Val His Val Lys Ala Gly Arg Val Tyr Trp Thr Asn Trp
 905 3910 3915 3920
 His Thr Gly Thr Ile Ser Tyr Arg Ser Leu Pro Pro Ala Ala Pro Pro
 3925 3930 3935
 Thr Thr Ser Asn Arg His Arg Arg Gln Ile Asp Arg Gly Val Thr His
 3940 3945 3950
 Leu Asn Ile Ser Gly Leu Lys Met Pro Arg Gly Ile Ala Ile Asp Trp
 3955 3960 3965
 Val Ala Gly Asn Val Tyr Trp Thr Asp Ser Gly Arg Asp Val Ile Glu
 3970 3975 3980
 Val Ala Gln Met Lys Gly Glu Asn Arg Lys Thr Leu Ile Ser Gly Met
 985 3990 3995 4000
 Ile Asp Glu Pro His Ala Ile Val Val Asp Pro Leu Arg Gly Thr Met
 4005 4010 4015
 Tyr Trp Ser Asp Trp Gly Asn His Pro Lys Ile Glu Thr Ala Ala Met
 4020 4025 4030
 Asp Gly Thr Leu Arg Glu Thr Leu Val Gln Asp Asn Ile Gln Trp Pro
 4035 4040 4045
 Thr Gly Leu Ala Val Asp Tyr His Asn Glu Arg Leu Tyr Trp Ala Asp
 4050 4055 4060
 Ala Lys Leu Ser Val Ile Gly Ser Ile Arg Leu Asn Gly Thr Asp Pro
 065 4070 4075 4080
 Ile Val Ala Ala Asp Ser Lys Arg Gly Leu Ser His Pro Phe Ser Ile
 4085 4090 4095
 Asp Val Phe Glu Asp Tyr Ile Tyr Gly Val Thr Tyr Ile Asn Asn Arg
 4100 4105 4110
 Val Phe Lys Ile His Lys Phe Gly His Ser Pro Leu Tyr Asn Leu Thr
 4115 4120 4125
 Gly Gly Leu Ser His Ala Ser Asp Val Val Leu Tyr His Gln His Lys
 4130 4135 4140
 Gln Pro Glu Val Thr Asn Pro Cys Asp Arg Lys Lys Cys Glu Trp Leu
 145 4150 4155 4160
 Cys Leu Leu Ser Pro Ser Gly Pro Val Cys Thr Cys Pro Asn Gly Lys
 4165 4170 4175
 Arg Leu Asp Asn Gly Thr Cys Val Pro Val Pro Ser Pro Thr Pro Pro
 4180 4185 4190
 Pro Asp Ala Pro Arg Pro Gly Thr Cys Thr Leu Gln Cys Phe Asn Gly
 4195 4200 4205
 Gly Ser Cys Phe Leu Asn Ala Arg Arg Gln Pro Lys Cys Arg Cys Gln
 4210 4215 4220
 Pro Arg Tyr Thr Gly Asp Lys Cys Glu Leu Asp Gln Cys Trp Glu Tyr

FIG. 12B

225 4230 4235 4240
 Cys His Asn Gly Gly Thr Cys Ala Ala Ser Pro Ser Gly Met Pro Thr
 4245 4250 4255
 Cys Arg Cys Pro Thr Gly Phe Thr Gly Pro Lys Cys Thr Ala Gln Val
 4260 4265 4270
 Cys Ala Gly Tyr Cys Ser Asn Asn Ser Thr Cys Thr Val Asn Gln Gly
 4275 4280 4285
 Asn Gln Pro Gln Cys Arg Cys Leu Pro Gly Phe Leu Gly Asp Arg Cys
 4290 4295 4300
 Gln Tyr Arg Gln Cys Ser Gly Phe Cys Glu Asn Phe Gly Thr Cys Gln
 305 4310 4315 4320
 Met Ala Ala Asp Gly Ser Arg Gln Cys Arg Cys Thr Val Tyr Phe Glu
 4325 4330 4335
 Gly Pro Arg Cys Glu Val Asn Lys Cys Ser Arg Cys Leu Gln Gly Ala
 4340 4345 4350
 Cys Val Val Asn Lys Gln Thr Gly Asp Val Thr Cys Asn Cys Thr Asp
 4355 4360 4365
 Gly Arg Val Ala Pro Ser Cys Leu Thr Cys Ile Asp His Cys Ser Asn
 4370 4375 4380
 Gly Gly Ser Cys Thr Met Asn Ser Lys Met Met Pro Glu Cys Gln Cys
 385 4390 4395 4400
 Pro Pro His Met Thr Gly Pro Arg Cys Gln Glu Gln Val Val Ser Gln
 4405 4410 4415
 Gln Gln Pro Gly His Met Ala Ser Ile Leu Ile Pro Leu Leu Leu Leu
 4420 4425 4430
 Leu Leu Leu Leu Val Ala Gly Val Val Phe Trp Tyr Lys Arg Arg
 4435 4440 4445
 Val Arg Gly Ala Lys Gly Phe Gln His Gln Arg Met Thr Asn Gly Ala
 4450 4455 4460
 Met Asn Val Glu Ile Gly Asn Pro Thr Tyr Lys Met Tyr Glu Gly Gly
 465 4470 4475 4480
 Glu Pro Asp Asp Val Gly Gly Leu Leu Asp Ala Asp Phe Ala Leu Asp
 4485 4490 4495
 Pro Asp Lys Pro Thr Asn Phe Thr Asn Pro Val Tyr Ala Thr Leu Tyr
 4500 4505 4510
 Met Gly Gly His Gly Ser Arg His Ser Leu Ala Ser Thr Asp Glu Lys
 4515 4520 4525
 Arg Glu Leu Leu Gly Arg Gly Pro Glu Asp Glu Ile Gly Asp Pro Leu
 4530 4535 4540
 Ala
 545

FIG. 12B

GCTACAATCC ATCTGGTCTC CTCCAGCTCC TTCTTTCTGC AAC ATG GGG AAG AAC	55
Met Gly Lys Asn	
1	
AAA CTC CTT CAT CCA AGT CTG GTT CTT CTC CTC TTG GTC CTC CTG CCC	103
Lys Leu Leu His Pro Ser Leu Val Leu Leu Leu Leu Val Leu Leu Pro	
5 10 15 20	
ACA GAC GCC TCA GTC TCT GGA AAA CCG CAG TAT ATG GTT CTG GTC CCC	151
Thr Asp Ala Ser Val Ser Gly Lys Pro Gln Tyr Met Val Leu Val Pro	
25 30 35	
TCC CTG CTC CAC ACT GAG ACC ACT GAG AAG GGC TGT GTC CTT CTG AGC	199
Ser Leu Leu His Thr Glu Thr Thr Glu Lys Gly Cys Val Leu Leu Ser	
40 45 50	
TAC CTG AAT GAG ACA GTG ACT GTA AGT GCT TCC TTG GAG TCT GTC AGG	247
Tyr Leu Asn Glu Thr Val Thr Val Ser Ala Ser Leu Glu Ser Val Arg	
55 60 65	
GGA AAC AGG AGC CTC TTC ACT GAC CTG GAG GCG GAG AAT GAC GTA CTC	295
Gly Asn Arg Ser Leu Phe Thr Asp Leu Glu Ala Glu Asn Asp Val Leu	
70 75 80	
CAC TGT GTC GCC TTC GCT GTC CCA AAG TCT TCA TCC AAT GAG GAG GTA	343
His Cys Val Ala Phe Ala Val Pro Lys Ser Ser Ser Asn Glu Glu Val	
85 90 95 100	
ATG TTC CTC ACT GTC CAA GTG AAA GGA CCA ACC CAA GAA TTT AAG AAG	391
Met Phe Leu Thr Val Gln Val Lys Gly Pro Thr Gln Glu Phe Lys Lys	
105 110 115	
CGG ACC ACA GTG ATG GTT AAG AAC GAG GAC AGT CTG GTC TTT GTC CAG	439
Arg Thr Thr Val Met Val Lys Asn Glu Asp Ser Leu Val Phe Val Gln	
120 125 130	
ACA GAC AAA TCA ATC TAC AAA CCA GGG CAG ACA GTG AAA TTT CGT GTT	487
Thr Asp Lys Ser Ile Tyr Lys Pro Gly Gln Thr Val Lys Phe Arg Val	
135 140 145	
GTC TCC ATG GAT GAA AAC TTT CAC CCC CTG AAT GAG TTG ATT CCA CTA	535
Val Ser Met Asp Glu Asn Phe His Pro Leu Asn Glu Leu Ile Pro Leu	
150 155 160	
GTA TAC ATT CAG GAT CCC AAA GGA AAT CGC ATC GCA CAA TGG CAG AGT	583
Val Tyr Ile Gln Asp Pro Lys Gly Asn Arg Ile Ala Gln Trp Gln Ser	
165 170 175 180	
TTC CAG TTA GAG GGT GGC CTC AAG CAA TTT TCT TTT CCC CTC TCA TCA	631
Phe Gln Leu Glu Gly Gly Leu Lys Gln Phe Ser Phe Pro Leu Ser Ser	
185 190 195	
GAG CCC TTC CAG GGC TCC TAC AAG GTG GTG GTA CAG AAG AAA TCA GGT	679
Glu Pro Phe Gln Gly Ser Tyr Lys Val Val Val Gln Lys Lys Ser Gly	
200 205 210	
GGA AGG ACA GAG CAC CCT TTC ACC GTG GAG GAA TTT GTT CTT CCC AAG	727

FIG. 13A

Gly	Arg	Thr	Glu	His	Pro	Phe	Thr	Val	Glu	Glu	Phe	Val	Leu	Pro	Lys	
		215						220					225			
TTT	GAA	GTA	CAA	GTA	ACA	GTG	CCA	AAG	ATA	ATC	ACC	ATC	TTG	GAA	GAA	775
Phe	Glu	Val	Gln	Val	Thr	Val	Pro	Lys	Ile	Ile	Thr	Ile	Leu	Glu	Glu	
		230						235					240			
GAG	ATG	AAT	GTA	TCA	GTG	TGT	GGC	CTA	TAC	ACA	TAT	GGG	AAG	CCT	GTC	823
Glu	Met	Asn	Val	Ser	Val	Cys	Gly	Leu	Tyr	Thr	Tyr	Gly	Lys	Pro	Val	
		245						250					255		260	
CCT	GGA	CAT	GTG	ACT	GTG	AGC	ATT	TGC	AGA	AAG	TAT	AGT	GAC	GCT	TCC	871
Pro	Gly	His	Val	Thr	Val	Ser	Ile	Cys	Arg	Lys	Tyr	Ser	Asp	Ala	Ser	
				265					270						275	
GAC	TGC	CAC	GGT	GAA	GAT	TCA	CAG	GCT	TTC	TGT	GAG	AAA	TTC	AGT	GGA	919
Asp	Cys	His	Gly	Glu	Asp	Ser	Gln	Ala	Phe	Cys	Glu	Lys	Phe	Ser	Gly	
			280						285						290	
CAG	CTA	AAC	AGC	CAT	GGC	TGC	TTC	TAT	CAG	CAA	GTA	AAA	ACC	AAG	GTC	967
Gln	Leu	Asn	Ser	His	Gly	Cys	Phe	Tyr	Gln	Gln	Val	Lys	Thr	Lys	Val	
		295							300					305		
TTC	CAG	CTG	AAG	AGG	AAG	GAG	TAT	GAA	ATG	AAA	CTT	CAC	ACT	GAG	GCC	1015
Phe	Gln	Leu	Lys	Arg	Lys	Glu	Tyr	Glu	Met	Lys	Leu	His	Thr	Glu	Ala	
		310							315					320		
CAG	ATC	CAA	GAA	GAA	GGA	ACA	GTG	GTG	GAA	TTG	ACT	GGA	AGG	CAG	TCC	1063
Gln	Ile	Gln	Glu	Glu	Gly	Thr	Val	Val	Glu	Leu	Thr	Gly	Arg	Gln	Ser	
		325								335					340	
AGT	GAA	ATC	ACA	AGA	ACC	ATA	ACC	AAA	CTC	TCA	TTT	GTG	AAA	GTG	GAC	1111
Ser	Glu	Ile	Thr	Arg	Thr	Ile	Thr	Lys	Leu	Ser	Phe	Val	Lys	Val	Asp	
				345					350						355	
TCA	CAC	TTT	CGA	CAG	GGA	ATT	CCC	TTC	TTT	GGG	CAG	GTG	CGC	CTA	GTA	1159
Ser	His	Phe	Arg	Gln	Gly	Ile	Pro	Phe	Phe	Gly	Gln	Val	Arg	Leu	Val	
			360						365					370		
GAT	GGG	AAA	GGC	GTC	CCT	ATA	CCA	AAT	AAA	GTC	ATA	TTC	ATC	AGA	GGA	1207
Asp	Gly	Lys	Gly	Val	Pro	Ile	Pro	Asn	Lys	Val	Ile	Phe	Ile	Arg	Gly	
		375						380						385		
AAT	GAA	GCA	AAC	TAT	TAC	TCC	AAT	GCT	ACC	ACG	GAT	GAG	CAT	GGC	CTT	1255
Asn	Glu	Ala	Asn	Tyr	Tyr	Ser	Asn	Ala	Thr	Thr	Asp	Glu	His	Gly	Leu	
		390						395						400		
GTA	CAG	TTC	TCT	ATC	AAC	ACC	ACC	AAC	GTT	ATG	GGT	ACC	TCT	CTT	ACT	1303
Val	Gln	Phe	Ser	Ile	Asn	Thr	Thr	Asn	Val	Met	Gly	Thr	Ser	Leu	Thr	
		405						410							420	
GTT	AGG	GTC	AAT	TAC	AAG	GAT	CGT	AGT	CCC	TGT	TAC	GGC	TAC	CAG	TGG	1351
Val	Arg	Val	Asn	Tyr	Lys	Asp	Arg	Ser	Pro	Cys	Tyr	Gly	Tyr	Gln	Trp	
				425						430					435	
GTG	TCA	GAA	GAA	CAC	GAA	GAG	GCA	CAT	CAC	ACT	GCT	TAT	CTT	GTG	TTC	1399
Val	Ser	Glu	Glu	His	Glu	Glu	Ala	His	His	Thr	Ala	Tyr	Leu	Val	Phe	
			440						445						450	

FIG. 13A

TCC	CCA	AGC	AAG	AGC	TTT	GTC	CAC	CTT	GAG	CCC	ATG	TCT	CAT	GAA	CTA	1447
Ser	Pro	Ser	Lys	Ser	Phe	Val	His	Leu	Glu	Pro	Met	Ser	His	Glu	Leu	
		455					460					465				
CCC	TGT	GGC	CAT	ACT	CAG	ACA	GTC	CAG	GCA	CAT	TAT	ATT	CTG	AAT	GGA	1495
Pro	Cys	Gly	His	Thr	Gln	Thr	Val	Gln	Ala	His	Tyr	Ile	Leu	Asn	Gly	
	470					475					480					
GGC	ACC	CTG	CTG	GGG	CTG	AAG	AAG	CTC	TCC	TTT	TAT	TAT	CTG	ATA	ATG	1543
Gly	Thr	Leu	Leu	Gly	Leu	Lys	Lys	Leu	Ser	Phe	Tyr	Tyr	Leu	Ile	Met	
485					490					495					500	
GCA	AAG	GGA	GGC	ATT	GTC	CGA	ACT	GGG	ACT	CAT	GGA	CTG	CTT	GTG	AAG	1591
Ala	Lys	Gly	Gly	Ile	Val	Arg	Thr	Gly	Thr	His	Gly	Leu	Leu	Val	Lys	
				505					510						515	
CAG	GAA	GAC	ATG	AAG	GGC	CAT	TTT	TCC	ATC	TCA	ATC	CCT	GTG	AAG	TCA	1639
Gln	Glu	Asp	Met	Lys	Gly	His	Phe	Ser	Ile	Ser	Ile	Pro	Val	Lys	Ser	
			520					525					530			
GAC	ATT	GCT	CCT	GTC	GCT	CGG	TTG	CTC	ATC	TAT	GCT	GTT	TTA	CCT	ACC	1687
Asp	Ile	Ala	Pro	Val	Ala	Arg	Leu	Leu	Ile	Tyr	Ala	Val	Leu	Pro	Thr	
	535						540					545				
GGG	GAC	GTG	ATT	GGG	GAT	TCT	GCA	AAA	TAT	GAT	GTT	GAA	AAT	TGT	CTG	1735
Gly	Asp	Val	Ile	Gly	Asp	Ser	Ala	Lys	Tyr	Asp	Val	Glu	Asn	Cys	Leu	
	550					555					560					
GCC	AAC	AAG	GTG	GAT	TTG	AGC	TTC	AGC	CCA	TCA	CAA	AGT	CTC	CCA	GCC	1783
Ala	Asn	Lys	Val	Asp	Leu	Ser	Phe	Ser	Pro	Ser	Gln	Ser	Leu	Pro	Ala	
565					570					575					580	
TCA	CAC	GCC	CAC	CTG	CGA	GTC	ACA	GCG	GCT	CCT	CAG	TCC	GTC	TGC	GCC	1831
Ser	His	Ala	His	Leu	Arg	Val	Thr	Ala	Ala	Pro	Gln	Ser	Val	Cys	Ala	
				585					590						595	
CTC	CGT	GCT	GTG	GAC	CAA	AGC	GTG	CTG	CTC	ATG	AAG	CCT	GAT	GCT	GAG	1879
Leu	Arg	Ala	Val	Asp	Gln	Ser	Val	Leu	Leu	Met	Lys	Pro	Asp	Ala	Glu	
			600					605					610			
CTC	TCG	GCG	TCC	TCG	GTT	TAC	AAC	CTG	CTA	CCA	GAA	AAG	GAC	CTC	ACT	1927
Leu	Ser	Ala	Ser	Ser	Val	Tyr	Asn	Leu	Leu	Pro	Glu	Lys	Asp	Leu	Thr	
		615					620					625				
GGC	TTC	CCT	GGG	CCT	TTG	AAT	GAC	CAG	GAC	GAT	GAA	GAC	TGC	ATC	AAT	1975
Gly	Phe	Pro	Gly	Pro	Leu	Asn	Asp	Gln	Asp	Asp	Glu	Asp	Cys	Ile	Asn	
	630					635					640					
CGT	CAT	AAT	GTC	TAT	ATT	AAT	GGA	ATC	ACA	TAT	ACT	CCA	GTA	TCA	AGT	2023
Arg	His	Asn	Val	Tyr	Ile	Asn	Gly	Ile	Thr	Tyr	Thr	Pro	Val	Ser	Ser	
645					650					655					660	
ACA	AAT	GAA	AAG	GAT	ATG	TAC	AGC	TTC	CTA	GAG	GAC	ATG	GGC	TTA	AAG	2071
Thr	Asn	Glu	Lys	Asp	Met	Tyr	Ser	Phe	Leu	Glu	Asp	Met	Gly	Leu	Lys	
				665					670						675	
GCA	TTC	ACC	AAC	TCA	AAG	ATT	CGT	AAA	CCC	AAA	ATG	TGT	CCA	CAG	CTT	2119
Ala	Phe	Thr	Asn	Ser	Lys	Ile	Arg	Lys	Pro	Lys	Met	Cys	Pro	Gln	Leu	
			680					685							690	

FIG. 13A

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CAA	CAG	TAT	GAA	ATG	CAT	GGA	CCT	GAA	GGT	CTA	CGT	GTA	GGT	TTT	TAT	2167
Gln	Gln	Tyr	Glu	Met	His	Gly	Pro	Glu	Gly	Leu	Arg	Val	Gly	Phe	Tyr	
		695					700					705				
GAG	TCA	GAT	GTA	ATG	GGA	AGA	GGC	CAT	GCA	CGC	CTG	GTG	CAT	GTT	GAA	2215
Glu	Ser	Asp	Val	Met	Gly	Arg	Gly	His	Ala	Arg	Leu	Val	His	Val	Glu	
	710					715					720					
GAG	CCT	CAC	ACG	GAG	ACC	GTA	CGA	AAG	TAC	TTC	CCT	GAG	ACA	TGG	ATC	2263
Glu	Pro	His	Thr	Glu	Thr	Val	Arg	Lys	Tyr	Phe	Pro	Glu	Thr	Trp	Ile	
	725				730					735					740	
TGG	GAT	TTG	GTG	GTG	GTA	AAC	TCA	GCA	GGG	GTG	GCT	GAG	GTA	GGA	GTA	2311
Trp	Asp	Leu	Val	Val	Val	Asn	Ser	Ala	Gly	Val	Ala	Glu	Val	Gly	Val	
			745						750					755		
ACA	GTC	CCT	GAC	ACC	ATC	ACC	GAG	TGG	AAG	GCA	GGG	GCC	TTC	TGC	CTG	2359
Thr	Val	Pro	Asp	Thr	Ile	Thr	Glu	Trp	Lys	Ala	Gly	Ala	Phe	Cys	Leu	
			760					765					770			
TCT	GAA	GAT	GCT	GGA	CTT	GGT	ATC	TCT	TCC	ACT	GCC	TCT	CTC	CGA	GCC	2407
Ser	Glu	Asp	Ala	Gly	Leu	Gly	Ile	Ser	Ser	Thr	Ala	Ser	Leu	Arg	Ala	
		775				780							785			
TTC	CAG	CCC	TTC	TTT	GTG	GAG	CTT	ACA	ATG	CCT	TAC	TCT	GTG	ATT	CGT	2455
Phe	Gln	Pro	Phe	Phe	Val	Glu	Leu	Thr	Met	Pro	Tyr	Ser	Val	Ile	Arg	
	790					795					800					
GGA	GAG	GCC	TTC	ACA	CTC	AAG	GCC	ACG	GTC	CTA	AAC	TAC	CTT	CCC	AAA	2503
Gly	Glu	Ala	Phe	Thr	Leu	Lys	Ala	Thr	Val	Leu	Asn	Tyr	Leu	Pro	Lys	
	805				810					815					820	
TGC	ATC	CGG	GTC	AGT	GTG	CAG	CTG	GAA	GCC	TCT	CCC	GCC	TTC	CTT	GCT	2551
Cys	Ile	Arg	Val	Ser	Val	Gln	Leu	Glu	Ala	Ser	Pro	Ala	Phe	Leu	Ala	
				825					830					835		
GTC	CCA	GTG	GAG	AAG	GAA	CAA	GCG	CCT	CAC	TGC	ATC	TGT	GCA	AAC	GGG	2599
Val	Pro	Val	Glu	Lys	Glu	Gln	Ala	Pro	His	Cys	Ile	Cys	Ala	Asn	Gly	
			840					845					850			
CGG	CAA	ACT	GTG	TCC	TGG	GCA	GTA	ACC	CCA	AAG	TCA	TTA	GGA	AAT	GTG	2647
Arg	Gln	Thr	Val	Ser	Trp	Ala	Val	Thr	Pro	Lys	Ser	Leu	Gly	Asn	Val	
			855				860					865				
AAT	TTC	ACT	GTG	AGC	GCA	GAG	GCA	CTA	GAG	TCT	CAA	GAG	CTG	TGT	GGG	2695
Asn	Phe	Thr	Val	Ser	Ala	Glu	Ala	Leu	Glu	Ser	Gln	Glu	Leu	Cys	Gly	
	870					875					880					
ACT	GAG	GTG	CCT	TCA	GTT	CCT	GAA	CAC	GGA	AGG	AAA	GAC	ACA	GTC	ATC	2743
Thr	Glu	Val	Pro	Ser	Val	Pro	Glu	His	Gly	Arg	Lys	Asp	Thr	Val	Ile	
	885				890					895					900	
AAG	CCT	CTG	TTG	GTT	GAA	CCT	GAA	GGA	CTA	GAG	AAG	GAA	ACA	ACA	TTC	2791
Lys	Pro	Leu	Leu	Val	Glu	Pro	Glu	Gly	Leu	Glu	Lys	Glu	Thr	Thr	Phe	
			905						910					915		
AAC	TCC	CTA	CTT	TGT	CCA	TCA	GGT	GGT	GAG	GTT	TCT	GAA	GAA	TTA	TCC	2839
Asn	Ser	Leu	Leu	Cys	Pro	Ser	Gly	Gly	Glu	Val	Ser	Glu	Glu	Leu	Ser	
			920					925					930			

FIG. 13A

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CTG AAA CTG CCA CCA AAT GTG GTA GAA GAA TCT GCC CGA GCT TCT GTC	2887
Leu Lys Leu Pro Pro Asn Val Val Glu Glu Ser Ala Arg Ala Ser Val	
935 940 945	
TCA GTT TTG GGA GAC ATA TTA GGC TCT GCC ATG CAA AAC ACA CAA AAT	2935
Ser Val Leu Gly Asp Ile Leu Gly Ser Ala Met Gln Asn Thr Gln Asn	
950 955 960	
CTT CTC CAG ATG CCC TAT GGC TGT GGA GAG CAG AAT ATG GTC CTC TTT	2983
Leu Leu Gln Met Pro Tyr Gly Cys Gly Glu Gln Asn Met Val Leu Phe	
965 970 975 980	
GCT CCT AAC ATC TAT GTA CTG GAT TAT CTA AAT GAA ACA CAG CAG CTT	3031
Ala Pro Asn Ile Tyr Val Leu Asp Tyr Leu Asn Glu Thr Gln Gln Leu	
985 990 995	
ACT CCA GAG GTC AAG TCC AAG GCC ATT GGC TAT CTC AAC ACT GGT TAC	3079
Thr Pro Glu Val Lys Ser Lys Ala Ile Gly Tyr Leu Asn Thr Gly Tyr	
1000 1005 1010	
CAG AGA CAG TTG AAC TAC AAA CAC TAT GAT GGC TCC TAC AGC ACC TTT	3127
Gln Arg Gln Leu Asn Tyr Lys His Tyr Asp Gly Ser Tyr Ser Thr Phe	
1015 1020 1025	
GGG GAG CGA TAT GGC AGG AAC CAG GGC AAC ACC TGG CTC ACA GCC TTT	3175
Gly Glu Arg Tyr Gly Arg Asn Gln Gly Asn Thr Trp Leu Thr Ala Phe	
1030 1035 1040	
GTT CTG AAG ACT TTT GCC CAA GCT CGA GCC TAC ATC TTC ATC GAT GAA	3223
Val Leu Lys Thr Phe Ala Gln Ala Arg Ala Tyr Ile Phe Ile Asp Glu	
1045 1050 1055 1060	
GCA CAC ATT ACC CAA GCC CTC ATA TGG CTC TCC CAG AGG CAG AAG GAC	3271
Ala His Ile Thr Gln Ala Leu Ile Trp Leu Ser Gln Arg Gln Lys Asp	
1065 1070 1075	
AAT GGC TGT TTC AGG AGC TCT GGC TCA CTG CTC AAC AAT GCC ATA AAG	3319
Asn Gly Cys Phe Arg Ser Ser Gly Ser Leu Leu Asn Asn Ala Ile Lys	
1080 1085 1090	
GGA GGA GTA GAA GAT GAA GTG ACC CTC TCC GCC TAT ATC ACC ATC GCC	3367
Gly Gly Val Glu Asp Glu Val Thr Leu Ser Ala Tyr Ile Thr Ile Ala	
1095 1100 1105	
CTT CTG GAG ATT CCT CTC ACA GTC ACT CAC CCT GTT GTC CGC AAT GCC	3415
Leu Leu Glu Ile Pro Leu Thr Val Thr His Pro Val Val Arg Asn Ala	
1110 1115 1120	
CTG TTT TGC CTG GAG TCA GCC TGG AAG ACA GCA CAA GAA GGG GAC CAT	3463
Leu Phe Cys Leu Glu Ser Ala Trp Lys Thr Ala Gln Glu Gly Asp His	
1125 1130 1135 1140	
GGC AGC CAT GTA TAT ACC AAA GCA CTG CTG GCC TAT GCT TTT GCC CTG	3511
Gly Ser His Val Tyr Thr Lys Ala Leu Leu Ala Tyr Ala Phe Ala Leu	
1145 1150 1155	
GCA GGT AAC CAG GAC AAG AGG AAG GAA GTA CTC AAG TCA CTT AAT GAG	3559
Ala Gly Asn Gln Asp Lys Arg Lys Glu Val Leu Lys Ser Leu Asn Glu	
1160 1165 1170	

FIG. 13A

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GAA GCT GTG AAG AAA GAC AAC TCT GTC CAT TGG GAG CGC CCT CAG AAA Glu Ala Val Lys Lys Asp Asn Ser Val His Trp Glu Arg Pro Gln Lys 1175 1180 1185	3607
CCC AAG GCA CCA GTG GGG CAT TTT TAC GAA CCC CAG GCT CCC TCT GCT Pro Lys Ala Pro Val Gly His Phe Tyr Glu Pro Gln Ala Pro Ser Ala 1190 1195 1200	3655
GAG GTG GAG ATG ACA TCC TAT GTG CTC CTC GCT TAT CTC ACG GCC CAG Glu Val Glu Met Thr Ser Tyr Val Leu Leu Ala Tyr Leu Thr Ala Gln 1205 1210 1215 1220	3703
CCA GCC CCA ACC TCG GAG GAC CTG ACC TCT GCA ACC AAC ATC GTG AAG Pro Ala Pro Thr Ser Glu Asp Leu Thr Ser Ala Thr Asn Ile Val Lys 1225 1230 1235	3751
TGG ATC ACG AAG CAG CAG AAT GCC CAG GGC GGT TTC TCC TCC ACC CAG Trp Ile Thr Lys Gln Gln Asn Ala Gln Gly Gly Phe Ser Ser Thr Gln 1240 1245 1250	3799
GAC ACA GTG GTG GCT CTC CAT GCT CTG TCC AAA TAT GGA GCC GCC ACA Asp Thr Val Val Ala Leu His Ala Leu Ser Lys Tyr Gly Ala Ala Thr 1255 1260 1265	3847
TTT ACC AGG ACT GGG AAG GCT GCA CAG GTG ACT ATC CAG TCT TCA GGG Phe Thr Arg Thr Gly Lys Ala Ala Gln Val Thr Ile Gln Ser Ser Gly 1270 1275 1280	3895
ACA TTT TCC AGC AAA TTC CAA GTG GAC AAC AAC AAT CGC CTG TTA CTG Thr Phe Ser Ser Lys Phe Gln Val Asp Asn Asn Arg Leu Leu Leu 1285 1290 1295 1300	3943
CAG CAG GTC TCA TTG CCA GAG CTG CCT GGG GAA TAC AGC ATG AAA GTG Gln Gln Val Ser Leu Pro Glu Leu Pro Gly Glu Tyr Ser Met Lys Val 1305 1310 1315	3991
ACA GGA GAA GGA TGT GTC TAC CTC CAG ACC TCC TTG AAA TAC AAT ATT Thr Gly Glu Gly Cys Val Tyr Leu Gln Thr Ser Leu Lys Tyr Asn Ile 1320 1325 1330	4039
CTC CCA GAA AAG GAA GAG TTC CCC TTT GCT TTA GGA GTG CAG ACT CTG Leu Pro Glu Lys Glu Glu Phe Pro Phe Ala Leu Gly Val Gln Thr Leu 1335 1340 1345	4087
CCT CAA ACT TGT GAT GAA CCC AAA GCC CAC ACC AGC TTC CAA ATC TCC Pro Gln Thr Cys Asp Glu Pro Lys Ala His Thr Ser Phe Gln Ile Ser 1350 1355 1360	4135
CTA AGT GTC AGT TAC ACA GGG AGC CGC TCT GCC TCC AAC ATG GCG ATC Leu Ser Val Ser Tyr Thr Gly Ser Arg Ser Ala Ser Asn Met Ala Ile 1365 1370 1375 1380	4183
GTT GAT GTG AAG ATG GTC TCT GGC TTC ATT CCC CTG AAG CCA ACA GTG Val Asp Val Lys Met Val Ser Gly Phe Ile Pro Leu Lys Pro Thr Val 1385 1390 1395	4231
AAA ATG CTT GAA AGA TCT AAC CAT GTG AGC CGG ACA GAA GTC AGC AGC Lys Met Leu Glu Arg Ser Asn His Val Ser Arg Thr Glu Val Ser Ser 1400 1405 1410	4279

FIG. 13A

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AAC CAT GTC TTG ATT TAC CTT GAT AAG GTG TCA AAT CAG ACA CTG AGC	4327
Asn His Val Leu Ile Tyr Leu Asp Lys Val Ser Asn Gln Thr Leu Ser	
1415 1420 1425	
TTG TTC TTC ACG GTT CTG CAA GAT GTC CCA GTA AGA GAT CTC AAA CCA	4375
Leu Phe Phe Thr Val Leu Gln Asp Val Pro Val Arg Asp Leu Lys Pro	
1430 1435 1440	
GCC ATA GTG AAA GTC TAT GAT TAC TAC GAG ACG GAT GAG TTT GCA ATC	4423
Ala Ile Val Lys Val Tyr Asp Tyr Tyr Glu Thr Asp Glu Phe Ala Ile	
1445 1450 1455 1460	
GCT GAG TAC AAT GCT CCT TGC AGC AAA GAT CTT GGA AAT GCT TGAAGACCA	4474
Ala Glu Tyr Asn Ala Pro Cys Ser Lys Asp Leu Gly Asn Ala	
1465 1470 1	
CAAGGCTGAA AAGTGCTTTG CTGGAGTCCT GTTCTCTGAG CTCCACAGAA GACACGTGTT	4534
TTTGTATCTT TAAAGACTTG ATGAATAAAC ACTTTTCTG GTC	4577

FIG. 13A

Ser Val Ser Gly Lys Pro Gln Tyr Met Val Leu Val Pro Ser Leu Leu
 1 5 10 15
 His Thr Glu Thr Thr Glu Lys Gly Cys Val Leu Leu Ser Tyr Leu Asn
 20 25 30
 Glu Thr Val Thr Val Ser Ala Ser Leu Glu Ser Val Arg Gly Asn Arg
 35 40 45
 Ser Leu Phe Thr Asp Leu Glu Ala Glu Asn Asp Val Leu His Cys Val
 50 55 60
 Ala Phe Ala Val Pro Lys Ser Ser Ser Asn Glu Glu Val Met Phe Leu
 65 70 75 80
 Thr Val Gln Val Lys Gly Pro Thr Gln Glu Phe Lys Lys Arg Thr Thr
 85 90 95
 Val Met Val Lys Asn Glu Asp Ser Leu Val Phe Val Gln Thr Asp Lys
 100 105 110
 Ser Ile Tyr Lys Pro Gly Gln Thr Val Lys Phe Arg Val Val Ser Met
 115 120 125
 Asp Glu Asn Phe His Pro Leu Asn Glu Leu Ile Pro Leu Val Tyr Ile
 130 135 140
 Gln Asp Pro Lys Gly Asn Arg Ile Ala Gln Trp Gln Ser Phe Gln Leu
 145 150 155 160
 Glu Gly Gly Leu Lys Gln Phe Ser Phe Pro Leu Ser Ser Glu Pro Phe
 165 170 175
 Gln Gly Ser Tyr Lys Val Val Val Gln Lys Lys Ser Gly Gly Arg Thr
 180 185 190
 Glu His Pro Phe Thr Val Glu Glu Phe Val Leu Pro Lys Phe Glu Val
 195 200 205
 Gln Val Thr Val Pro Lys Ile Ile Thr Ile Leu Glu Glu Met Asn
 210 215 220
 Val Ser Val Cys Gly Leu Tyr Thr Tyr Gly Lys Pro Val Pro Gly His
 225 230 235 240
 Val Thr Val Ser Ile Cys Arg Lys Tyr Ser Asp Ala Ser Asp Cys His
 245 250 255
 Gly Glu Asp Ser Gln Ala Phe Cys Glu Lys Phe Ser Gly Gln Leu Asn
 260 265 270
 Ser His Gly Cys Phe Tyr Gln Gln Val Lys Thr Lys Val Phe Gln Leu
 275 280 285
 Lys Arg Lys Glu Tyr Glu Met Lys Leu His Thr Glu Ala Gln Ile Gln
 290 295 300
 Glu Glu Gly Thr Val Val Glu Leu Thr Gly Arg Gln Ser Ser Glu Ile
 305 310 315 320
 Thr Arg Thr Ile Thr Lys Leu Ser Phe Val Lys Val Asp Ser His Phe
 325 330 335
 Arg Gln Gly Ile Pro Phe Phe Gly Gln Val Arg Leu Val Asp Gly Lys
 340 345 350
 Gly Val Pro Ile Pro Asn Lys Val Ile Phe Ile Arg Gly Asn Glu Ala
 355 360 365
 Asn Tyr Tyr Ser Asn Ala Thr Thr Asp Glu His Gly Leu Val Gln Phe
 370 375 380
 Ser Ile Asn Thr Thr Asn Val Met Gly Thr Ser Leu Thr Val Arg Val
 385 390 395 400
 Asn Tyr Lys Asp Arg Ser Pro Cys Tyr Gly Tyr Gln Trp Val Ser Glu
 405 410 415
 Glu His Glu Glu Ala His His Thr Ala Tyr Leu Val Phe Ser Pro Ser
 420 425 430
 Lys Ser Phe Val His Leu Glu Pro Met Ser His Glu Leu Pro Cys Gly
 435 440 445
 His Thr Gln Thr Val Gln Ala His Tyr Ile Leu Asn Gly Gly Thr Leu
 450 455 460
 Leu Gly Leu Lys Lys Leu Ser Phe Tyr Tyr Leu Ile Met Ala Lys Gly

FIG. 13B

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465	Gly	Ile	Val	Arg	Thr	470	Gly	Thr	His	Gly	Leu	475	Leu	Val	Lys	Gln	Glu	Asp	480
					485						490							495	
Met	Lys	Gly	His	Phe	Ser	Ile	Ser	Ile	Ser	Ile	Pro	Val	Lys	Ser	Asp	Ile	Ala		
			500							505					510				
Pro	Val	Ala	Arg	Leu	Leu	Ile	Tyr	Ala	Val	Leu	Pro	Thr	Gly	Asp	Val				
		515					520					525							
Ile	Gly	Asp	Ser	Ala	Lys	Tyr	Asp	Val	Glu	Asn	Cys	Leu	Ala	Asn	Lys				
	530					535					540								
Val	Asp	Leu	Ser	Phe	Ser	Pro	Ser	Gln	Ser	Leu	Pro	Ala	Ser	His	Ala				
545					550					555					560				
His	Leu	Arg	Val	Thr	Ala	Ala	Pro	Gln	Ser	Val	Cys	Ala	Leu	Arg	Ala				
				565					570					575					
Val	Asp	Gln	Ser	Val	Leu	Leu	Met	Lys	Pro	Asp	Ala	Glu	Leu	Ser	Ala				
			580					585					590						
Ser	Ser	Val	Tyr	Asn	Leu	Leu	Pro	Glu	Lys	Asp	Leu	Thr	Gly	Phe	Pro				
		595					600					605							
Gly	Pro	Leu	Asn	Asp	Gln	Asp	Asp	Glu	Asp	Cys	Ile	Asn	Arg	His	Asn				
	610				615						620								
Val	Tyr	Ile	Asn	Gly	Ile	Thr	Tyr	Thr	Pro	Val	Ser	Ser	Thr	Asn	Glu				
625					630					635					640				
Lys	Asp	Met	Tyr	Ser	Phe	Leu	Glu	Asp	Met	Gly	Leu	Lys	Ala	Phe	Thr				
				645					650					655					
Asn	Ser	Lys	Ile	Arg	Lys	Pro	Lys	Met	Cys	Pro	Gln	Leu	Gln	Gln	Tyr				
				660				665						670					
Glu	Met	His	Gly	Pro	Glu	Gly	Leu	Arg	Val	Gly	Phe	Tyr	Glu	Ser	Asp				
		675					680					685							
Val	Met	Gly	Arg	Gly	His	Ala	Arg	Leu	Val	His	Val	Glu	Glu	Pro	His				
	690					695					700								
Thr	Glu	Thr	Val	Arg	Lys	Tyr	Phe	Pro	Glu	Thr	Trp	Ile	Trp	Asp	Leu				
705					710					715					720				
Val	Val	Val	Asn	Ser	Ala	Gly	Val	Ala	Glu	Val	Gly	Val	Thr	Val	Pro				
				725					730					735					
Asp	Thr	Ile	Thr	Glu	Trp	Lys	Ala	Gly	Ala	Phe	Cys	Leu	Ser	Glu	Asp				
			740					745					750						
Ala	Gly	Leu	Gly	Ile	Ser	Ser	Thr	Ala	Ser	Leu	Arg	Ala	Phe	Gln	Pro				
		755					760					765							
Phe	Phe	Val	Glu	Leu	Thr	Met	Pro	Tyr	Ser	Val	Ile	Arg	Gly	Glu	Ala				
	770					775					780								
Phe	Thr	Leu	Lys	Ala	Thr	Val	Leu	Asn	Tyr	Leu	Pro	Lys	Cys	Ile	Arg				
785					790					795					800				
Val	Ser	Val	Gln	Leu	Glu	Ala	Ser	Pro	Ala	Phe	Leu	Ala	Val	Pro	Val				
			805						810					815					
Glu	Lys	Glu	Gln	Ala	Pro	His	Cys	Ile	Cys	Ala	Asn	Gly	Arg	Gln	Thr				
			820					825					830						
Val	Ser	Trp	Ala	Val	Thr	Pro	Lys	Ser	Leu	Gly	Asn	Val	Asn	Phe	Thr				
		835					840					845							
Val	Ser	Ala	Glu	Ala	Leu	Glu	Ser	Gln	Glu	Leu	Cys	Gly	Thr	Glu	Val				
	850					855					860								
Pro	Ser	Val	Pro	Glu	His	Gly	Arg	Lys	Asp	Thr	Val	Ile	Lys	Pro	Leu				
865					870					875					880				
Leu	Val	Glu	Pro	Glu	Gly	Leu	Glu	Lys	Glu	Thr	Thr	Phe	Asn	Ser	Leu				
				885					890					895					
Leu	Cys	Pro	Ser	Gly	Gly	Glu	Val	Ser	Glu	Glu	Leu	Ser	Leu	Lys	Leu				
			900					905					910						
Pro	Pro	Asn	Val	Val	Glu	Glu	Ser	Ala	Arg	Ala	Ser	Val	Ser	Val	Leu				
		915					920						925						
Gly	Asp	Ile	Leu	Gly	Ser	Ala	Met	Gln	Asn	Thr	Gln	Asn	Leu	Leu	Gln				
	930					935					940								

FIG. 13B

Met Pro Tyr Gly Cys Gly Glu Gln Asn Met Val Leu Phe Ala Pro Asn
 945 950 955 960
 Ile Tyr Val Leu Asp Tyr Leu Asn Glu Thr Gln Gln Leu Thr Pro Glu
 965 970 975
 Val Lys Ser Lys Ala Ile Gly Tyr Leu Asn Thr Gly Tyr Gln Arg Gln
 980 985 990
 Leu Asn Tyr Lys His Tyr Asp Gly Ser Tyr Ser Thr Phe Gly Glu Arg
 995 1000 1005
 Tyr Gly Arg Asn Gln Gly Asn Thr Trp Leu Thr Ala Phe Val Leu Lys
 1010 1015 1020
 Thr Phe Ala Gln Ala Arg Ala Tyr Ile Phe Ile Asp Glu Ala His Ile
 1025 1030 1035 1040
 Thr Gln Ala Leu Ile Trp Leu Ser Gln Arg Gln Lys Asp Asn Gly Cys
 1045 1050 1055
 Phe Arg Ser Ser Gly Ser Leu Leu Asn Asn Ala Ile Lys Gly Gly Val
 1060 1065 1070
 Glu Asp Glu Val Thr Leu Ser Ala Tyr Ile Thr Ile Ala Leu Leu Glu
 1075 1080 1085
 Ile Pro Leu Thr Val Thr His Pro Val Val Arg Asn Ala Leu Phe Cys
 1090 1095 1100
 Leu Glu Ser Ala Trp Lys Thr Ala Gln Glu Gly Asp His Gly Ser His
 1105 1110 1115 1120
 Val Tyr Thr Lys Ala Leu Leu Ala Tyr Ala Phe Ala Leu Ala Gly Asn
 1125 1130 1135
 Gln Asp Lys Arg Lys Glu Val Leu Lys Ser Leu Asn Glu Glu Ala Val
 1140 1145 1150
 Lys Lys Asp Asn Ser Val His Trp Glu Arg Pro Gln Lys Pro Lys Ala
 1155 1160 1165
 Pro Val Gly His Phe Tyr Glu Pro Gln Ala Pro Ser Ala Glu Val Glu
 1170 1175 1180
 Met Thr Ser Tyr Val Leu Leu Ala Tyr Leu Thr Ala Gln Pro Ala Pro
 1185 1190 1195 1200
 Thr Ser Glu Asp Leu Thr Ser Ala Thr Asn Ile Val Lys Trp Ile Thr
 1205 1210 1215
 Lys Gln Gln Asn Ala Gln Gly Gly Phe Ser Ser Thr Gln Asp Thr Val
 1220 1225 1230
 Val Ala Leu His Ala Leu Ser Lys Tyr Gly Ala Ala Thr Phe Thr Arg
 1235 1240 1245
 Thr Gly Lys Ala Ala Gln Val Thr Ile Gln Ser Ser Gly Thr Phe Ser
 1250 1255 1260
 Ser Lys Phe Gln Val Asp Asn Asn Asn Arg Leu Leu Leu Gln Gln Val
 1265 1270 1275 1280
 Ser Leu Pro Glu Leu Pro Gly Glu Tyr Ser Met Lys Val Thr Gly Glu
 1285 1290 1295
 Gly Cys Val Tyr Leu Gln Thr Ser Leu Lys Tyr Asn Ile Leu Pro Glu
 1300 1305 1310
 Lys Glu Glu Phe Pro Phe Ala Leu Gly Val Gln Thr Leu Pro Gln Thr
 1315 1320 1325
 Cys Asp Glu Pro Lys Ala His Thr Ser Phe Gln Ile Ser Leu Ser Val
 1330 1335 1340
 Ser Tyr Thr Gly Ser Arg Ser Ala Ser Asn Met Ala Ile Val Asp Val
 1345 1350 1355 1360
 Lys Met Val Ser Gly Phe Ile Pro Leu Lys Pro Thr Val Lys Met Leu
 1365 1370 1375
 Glu Arg Ser Asn His Val Ser Arg Thr Glu Val Ser Ser Asn His Val
 1380 1385 1390
 Leu Ile Tyr Leu Asp Lys Val Ser Asn Gln Thr Leu Ser Leu Phe Phe
 1395 1400 1405

FIG. 13B

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(Sheet 61 of 91)

Thr	Val	Leu	Gln	Asp	Val	Pro	Val	Arg	Asp	Leu	Lys	Pro	Ala	Ile	Val
1410					1415						1420				
Lys	Val	Tyr	Asp	Tyr	Tyr	Glu	Thr	Asp	Glu	Phe	Ala	Ile	Ala	Glu	Tyr
425					1430				1435					1440	
Asn	Ala	Pro	Cys	Ser	Lys	Asp	Leu	Gly	Asn	Ala					
				1445					1450						

FIG. 13B

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(Sheet 62 of 91)

CAGCGGTGCG AGCTCCAGGC CCATGCACTG AGGAGGCGGA AACAAAGGGGA GGGGGGAGAG 60
 CTCCATCAAG CCCCTCCAA AGGCTCCCT ACCCGGTCCA CGCCCCCACC CCCCTCCCT 120
 CGCCTCCTCC CAATTGTGCA TTTTTCAGC CGGAGGCGGC TCCGAGATGG GGCTGTGAGC 180
 TTCGCCCGGG GAGGGGGAAA GAGCAGCGAG GAGTGAAGCG GGGGGGTGGG GTGAAGGGTT 240
 TGGATTTCGG GGCAGGGGGC GCACCCCGT CAGCAGGCC TCCCCAAGGG GCTCGGAAGT 300
 CTACCTCTTC ACCCAGCCC CTGGTGCCT TTGCCGAAGG AAAGAATAAG AACAGAGAAG 360
 GAGGAGGGGG AAAGGAGGAA AAGGGGGACC CCCCACTGG GGGGGGTGAA GGAGAGAAGT 420
 AGCAGGACCA GAGGGGAAGG GGCTGCTGCT TGCATCAGCC CACACC ATG CTG ACC 475

Met Leu Thr

1

CCG CCG TTG CTC CTG CTG CTG CCC CTG CTC TCA GCT CTG GTC GCG GCG 523
 Pro Pro Leu Leu Leu Leu Leu Pro Leu Leu Ser Ala Leu Val Ala Ala
 5 10 15

GCT ATC GAC GCC CCT AAG ACT TGC AGC CCC AAG CAG TTT GCC TGC AGA 571
 Ala Ile Asp Ala Pro Lys Thr Cys Ser Pro Lys Gln Phe Ala Cys Arg
 20 25 30 35

GAT CAA ATA ACC TGT ATC TCA AAG GGC TGG CGG TGC GAC GGT GAG AGG 619
 Asp Gln Ile Thr Cys Ile Ser Lys Gly Trp Arg Cys Asp Gly Glu Arg
 40 45 50

GAC TGC CCA GAC GGA TCT GAC GAG GCC CCT GAG ATT TGT CCA CAG AGT 667
 Asp Cys Pro Asp Gly Ser Asp Glu Ala Pro Glu Ile Cys Pro Gln Ser
 55 60 65

AAG GCC CAG CGA TGC CAG CCA AAC GAG CAT AAC TGC CTG GGT ACT GAG 715
 Lys Ala Gln Arg Cys Gln Pro Asn Glu His Asn Cys Leu Gly Thr Glu
 70 75 80

CTG TGT GTT CCC ATG TCC CGC CTC TGC AAT GGG GTC CAG GAC TGC ATG 763
 Leu Cys Val Pro Met Ser Arg Leu Cys Asn Gly Val Gln Asp Cys Met
 85 90 95

GAC GGC TCA GAT GAG GGG CCC CAC TGC CGA GAG CTC CAA GGC AAC TGC 811
 Asp Gly Ser Asp Glu Gly Pro His Cys Arg Glu Leu Gln Gly Asn Cys
 100 105 110 115

TCT CGC CTG GGC TGC CAG CAC CAT TGT GTC CCC ACA CTC GAT GGG CCC 859
 Ser Arg Leu Gly Cys Gln His His Cys Val Pro Thr Leu Asp Gly Pro
 120 125 130

ACC TGC TAC TGC AAC AGC AGC TTT CAG CTT CAG GCA GAT GGC AAG ACC 907
 Thr Cys Tyr Cys Asn Ser Ser Phe Gln Leu Gln Ala Asp Gly Lys Thr
 135 140 145

TGC AAA GAT TTT GAT GAG TGC TCA GTG TAC GGC ACC TGC AGC CAG CTA 955
 Cys Lys Asp Phe Asp Glu Cys Ser Val Tyr Gly Thr Cys Ser Gln Leu
 150 155 160

TGC ACC AAC ACA GAC GGC TCC TTC ATA TGT GGC TGT GTT GAA GGA TAC 1003
 Cys Thr Asn Thr Asp Gly Ser Phe Ile Cys Gly Cys Val Glu Gly Tyr
 165 170 175

CTC CTG CAG CCG GAT AAC CGC TCC TGC AAG GCC AAG AAC GAG CCA GTA 1051
 Leu Leu Gln Pro Asp Asn Arg Ser Cys Lys Ala Lys Asn Glu Pro Val
 180 185 190 195

FIG. 14A

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(Sheet 63 of 91)

GAC Asp	CGG Arg	CCC Pro	CCT Pro	GTG Val 200	CTG Leu	TTG Leu	ATA Ile	GCC Ala	AAC Asn 205	TCC Ser	CAG Gln	AAC Asn	ATC Ile 210	TTG Leu	GCC Ala	1099
ACG Thr	TAC Tyr	CTG Leu	AGT Ser 215	GGG Gly	GCC Ala	CAG Gln	GTG Val	TCT Ser 220	ACC Thr	ATC Ile	ACA Thr	CCT Pro	ACG Thr 225	AGC Ser	ACG Thr	1147
CGG Arg	CAG Gln	ACC Thr 230	ACA Thr	GCC Ala	ATG Met	GAC Asp	TTC Phe 235	AGC Ser	TAT Tyr	GCC Ala	AAC Asn	GAG Glu 240	ACC Thr	GTA Val	TGC Cys	1195
TGG Trp	GTG Val 245	CAT His	GTT Val	GGG Gly	GAC Asp	AGT Ser 250	GCT Ala	GCT Ala	CAG Gln	ACG Thr	CAG Gln 255	CTC Leu	AAG Lys	TGT Cys	GCC Ala	1243
CGC Arg 260	ATG Met	CCT Pro	GGC Gly	CTA Leu	AAG Lys 265	GGC Gly	TTC Phe	GTG Val	GAT Asp	GAG Glu 270	CAC His	ACC Thr	ATC Ile	AAC Asn	ATC Ile 275	1291
TCC Ser	CTC Leu	AGT Ser	CTG Leu	CAC His 280	CAC His	GTG Val	GAA Glu	CAG Gln	ATG Met 285	GCC Ala	ATC Ile	GAC Asp	TGG Trp	CTG Leu 290	ACA Thr	1339
GGC Gly	AAC Asn	TTC Phe	TAC Tyr 295	TTT Phe	GTG Val	GAT Asp	GAC Asp	ATC Ile 300	GAT Asp	GAT Asp	AGG Arg	ATC Ile	TTT Phe 305	GTC Val	TGC Cys	1387
AAC Asn	AGA Arg	AAT Asn 310	GGG Gly	GAC Asp	ACA Thr	TGT Cys	GTC Val 315	ACA Thr	TTG Leu	CTA Leu	GAC Asp	CTG Leu 320	GAA Glu	CTC Leu	TAC Tyr	1435
AAC Asn 325	CCC Pro	AAG Lys	GGC Gly	ATT Ile	GCC Ala	CTG Leu 330	GAC Asp	CCT Pro	GCC Ala	ATG Met	GGG Gly 335	AAG Lys	GTG Val	TTT Phe	TTC Phe	1483
ACT Thr 340	GAC Asp	TAT Tyr	GGG Gly	CAG Gln 345	ATC Ile	CCA Pro	AAG Lys	GTG Val	GAA Glu	CGC Arg 350	TGT Cys	GAC Asp	ATG Met	GAT Asp	GGG Gly 355	1531
CAG Gln	AAC Asn	CGC Arg	ACC Thr	AAG Lys 360	CTC Leu	GTC Val	GAC Asp	AGC Ser	AAG Lys 365	ATT Ile	GTG Val	TTT Phe	CCT Pro	CAT His 370	GGC Gly	1579
ATC Ile	ACG Thr	CTG Leu	GAC Asp 375	CTG Leu	GTC Val	AGC Ser	CGC Arg	CTT Leu 380	GTC Val	TAC Tyr	TGG Trp	GCA Ala	GAT Asp 385	GCC Ala	TAT Tyr	1627
CTG Leu	GAC Asp	TAT Tyr 390	ATT Ile	GAA Glu	GTG Val	GTG Val	GAC Asp 395	TAT Tyr	GAG Glu	GGC Gly	AAG Lys	GGC Gly 400	CGC Arg	CAG Gln	ACC Thr	1675
ATC Ile 405	ATC Ile	CAG Gln	GGC Gly	ATC Ile	CTG Leu	ATT Ile 410	GAG Glu	CAC His	CTG Leu	TAC Tyr	GGC Gly 415	CTG Leu	ACT Thr	GTG Val	TTT Phe	1723
GAG Glu 420	AAT Asn	TAT Tyr	CTC Leu	TAT Tyr	GCC Ala 425	ACC Thr	AAC Asn	TCG Ser	GAC Asp	AAT Asn 430	GCC Ala	AAT Asn	GCC Ala	CAG Gln	CAG Gln 435	1771

FIG. 14A

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AAG	ACG	AGT	GTG	ATC	CGT	GTG	AAC	CGC	TTT	AAC	AGC	ACC	GAG	TAC	CAG	1819
Lys	Thr	Ser	Val	Ile	Arg	Val	Asn	Arg	Phe	Asn	Ser	Thr	Glu	Tyr	Gln	
			440						445					450		
GTT	GTC	ACC	CGG	GTG	GAC	AAG	GGT	GGT	GCC	CTC	CAC	ATC	TAC	CAC	CAG	1867
Val	Val	Thr	Arg	Val	Asp	Lys	Gly	Gly	Ala	Leu	His	Ile	Tyr	His	Gln	
			455					460					465			
AGG	CGT	CAG	CCC	CGA	GTG	AGG	AGC	CAT	GCC	TGT	GAA	AAC	GAC	CAG	TAT	1915
Arg	Arg	Gln	Pro	Arg	Val	Arg	Ser	His	Ala	Cys	Glu	Asn	Asp	Gln	Tyr	
		470					475					480				
GGG	AAG	CCG	GGT	GGC	TGC	TCT	GAC	ATC	TGC	CTG	CTG	GCC	AAC	AGC	CAC	1963
Gly	Lys	Pro	Gly	Gly	Cys	Ser	Asp	Ile	Cys	Leu	Ala	Ala	Asn	Ser	His	
	485					490					495					
AAG	GCG	CGG	ACC	TGC	CGC	TGC	CGT	TCC	GGC	TTC	AGC	CTG	GGC	AGT	GAC	2011
Lys	Ala	Arg	Thr	Cys	Arg	Cys	Arg	Ser	Gly	Phe	Ser	Leu	Gly	Ser	Asp	
500					505					510					515	
GGG	AAG	TCA	TGC	AAG	AAG	CCG	GAG	CAT	GAG	CTG	TTC	CTC	GTG	TAT	GGC	2059
Gly	Lys	Ser	Cys	Lys	Lys	Pro	Glu	His	Glu	Leu	Phe	Leu	Val	Tyr	Gly	
				520					525					530		
AAG	GGC	CGG	CCA	GGC	ATC	ATC	CGG	GGC	ATG	GAT	ATG	GGG	GCC	AAG	GTG	2107
Lys	Gly	Arg	Pro	Gly	Ile	Ile	Arg	Gly	Met	Asp	Met	Gly	Ala	Lys	Val	
			535					540					545			
CCG	GAT	GAG	CAC	ATG	ATC	CCC	ATT	GAA	AAC	CTC	ATG	AAC	CCC	CGA	GCC	2155
Pro	Asp	Glu	His	Met	Ile	Pro	Ile	Glu	Asn	Leu	Met	Asn	Pro	Arg	Ala	
		550					555					560				
CTG	GAC	TTC	CAC	GCT	GAG	ACC	GGC	TTC	ATC	TAC	TTT	GCC	GAC	ACC	ACC	2203
Leu	Asp	Phe	His	Ala	Glu	Thr	Gly	Phe	Ile	Tyr	Phe	Ala	Asp	Thr	Thr	
	565					570					575					
AGC	TAC	CTC	ATT	GGC	CGC	CAG	AAG	ATT	GAT	GGC	ACT	GAG	CGG	GAG	ACC	2251
Ser	Tyr	Leu	Ile	Gly	Arg	Gln	Lys	Ile	Asp	Gly	Thr	Glu	Arg	Glu	Thr	
580					585					590					595	
ATC	CTG	AAG	GAC	GGC	ATC	CAC	AAT	GTG	GAG	GGT	GTG	GCC	GTG	GAC	TGG	2299
Ile	Leu	Lys	Asp	Gly	Ile	His	Asn	Val	Glu	Gly	Val	Ala	Val	Asp	Trp	
				600					605					610		
ATG	GGA	GAC	AAT	CTG	TAC	TGG	ACG	GAC	GAT	GGG	CCC	AAA	AAG	ACA	ATC	2347
Met	Gly	Asp	Asn	Leu	Tyr	Trp	Thr	Asp	Asp	Gly	Pro	Lys	Lys	Thr	Ile	
			615					620					625			
AGC	GTG	GCC	AGG	CTG	GAG	AAA	GCT	GCT	CAG	ACC	CGC	AAG	ACT	TTA	ATC	2395
Ser	Val	Ala	Arg	Leu	Glu	Lys	Ala	Ala	Gln	Thr	Arg	Lys	Thr	Leu	Ile	
		630					635					640				
GAG	GGC	AAA	ATG	ACA	CAC	CCC	AGG	GCT	ATT	GTG	GTG	GAT	CCA	CTC	AAT	2443
Glu	Gly	Lys	Met	Thr	His	Pro	Arg	Ala	Ile	Val	Val	Asp	Pro	Leu	Asn	
	645					650					655					
GGG	TGG	ATG	TAC	TGG	ACA	GAC	TGG	GAG	GAG	GAC	CCC	AAG	GAC	AGT	CGG	2491
Gly	Trp	Met	Tyr	Trp	Thr	Asp	Trp	Glu	Glu	Asp	Pro	Lys	Asp	Ser	Arg	
660					665					670					675	

FIG. 14A

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CGT	GGG	CGG	CTG	GAG	AGG	GCG	TGG	ATG	GAT	GGC	TCA	CAC	CGA	GAC	ATC	2539
Arg	Gly	Arg	Leu	Glu	Arg	Ala	Trp	Met	Asp	Gly	Ser	His	Arg	Asp	Ile	
				680					685					690		
TTT	GTC	ACC	TCC	AAG	ACA	GTG	CTT	TGG	CCC	AAT	GGG	CTA	AGC	CTG	GAC	2587
Phe	Val	Thr	Ser	Lys	Thr	Val	Leu	Trp	Pro	Asn	Gly	Leu	Ser	Leu	Asp	
			695					700					705			
ATC	CCG	GCT	GGG	CGC	CTC	TAC	TGG	GTG	GAT	GCC	TTC	TAC	GAC	CGC	ATC	2635
Ile	Pro	Ala	Gly	Arg	Leu	Tyr	Trp	Val	Asp	Ala	Phe	Tyr	Asp	Arg	Ile	
		710					715					720				
GAG	ACG	ATA	CTG	CTC	AAT	GGC	ACA	GAC	CGG	AAG	ATT	GTG	TAT	GAA	GGT	2683
Glu	Thr	Ile	Leu	Leu	Asn	Gly	Thr	Asp	Arg	Lys	Ile	Val	Tyr	Glu	Gly	
	725					730					735					
CCT	GAG	CTG	AAC	CAC	GCC	TTT	GGC	CTG	TGT	CAC	CAT	GGC	AAC	TAC	CTC	2731
Pro	Glu	Leu	Asn	His	Ala	Phe	Gly	Leu	Cys	His	His	Gly	Asn	Tyr	Leu	
	740				745					750				755		
TTC	TGG	ACT	GAG	TAT	CGG	AGT	GGC	AGT	GTC	TAC	CGC	TTG	GAA	CGG	GGT	2779
Phe	Trp	Thr	Glu	Tyr	Arg	Ser	Gly	Ser	Val	Tyr	Arg	Leu	Glu	Arg	Gly	
				760					765					770		
GTA	GGA	GGC	GCA	CCC	CCC	ACT	GTG	ACC	CTT	CTG	CGC	AGT	GAG	CGG	CCC	2827
Val	Gly	Gly	Ala	Pro	Pro	Thr	Val	Thr	Leu	Leu	Arg	Ser	Glu	Arg	Pro	
			775					780					785			
CCC	ATC	TTT	GAG	ATC	CGA	ATG	TAT	GAT	GCC	CAG	CAG	CAG	CAA	GTT	GGC	2875
Pro	Ile	Phe	Glu	Ile	Arg	Met	Tyr	Asp	Ala	Gln	Gln	Gln	Gln	Val	Gly	
		790					795					800				
ACC	AAC	AAA	TGC	CGG	GTG	AAC	AAT	GGC	GGC	TGC	AGC	AGC	CTG	TGC	TTG	2923
Thr	Asn	Lys	Cys	Arg	Val	Asn	Asn	Gly	Gly	Cys	Ser	Ser	Leu	Cys	Leu	
	805					810					815					
GCC	ACC	CCT	GGG	AGC	CGC	CAG	TGC	GCC	TGT	GCT	GAG	GAC	CAG	GTG	TTG	2971
Ala	Thr	Pro	Gly	Ser	Arg	Gln	Cys	Ala	Cys	Ala	Glu	Asp	Gln	Val	Leu	
	820				825				830					835		
GAC	GCA	GAC	GGC	GTC	ACT	TGC	TTG	GCG	AAC	CCA	TCC	TAC	GTG	CCT	CCA	3019
Asp	Ala	Asp	Gly	Val	Thr	Cys	Leu	Ala	Asn	Pro	Ser	Tyr	Val	Pro	Pro	
				840				845						850		
CCC	CAG	TGC	CAG	CCA	GGC	GAG	TTT	GCC	TGT	GCC	AAC	AGC	CGC	TGC	ATC	3067
Pro	Gln	Cys	Gln	Pro	Gly	Glu	Phe	Ala	Cys	Ala	Asn	Ser	Arg	Cys	Ile	
			855					860					865			
CAG	GAG	CGC	TGG	AAG	TGT	GAC	GGA	GAC	AAC	GAT	TGC	CTG	GAC	AAC	AGT	3115
Gln	Glu	Arg	Trp	Lys	Cys	Asp	Gly	Asp	Asn	Asp	Cys	Leu	Asp	Asn	Ser	
		870					875					880				
GAT	GAG	GCC	CCA	GCC	CTC	TGC	CAT	CAG	CAC	ACC	TGC	CCC	TCG	GAC	CGA	3163
Asp	Glu	Ala	Pro	Ala	Leu	Cys	His	Gln	His	Thr	Cys	Pro	Ser	Asp	Arg	
	885					890					895					
TTC	AAG	TGC	GAG	AAC	AAC	CGG	TGC	ATC	CCC	AAC	CGC	TGG	CTC	TGC	GAC	3211
Phe	Lys	Cys	Glu	Asn	Asn	Arg	Cys	Ile	Pro	Asn	Arg	Trp	Leu	Cys	Asp	
	900				905					910				915		

FIG. 14A

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GGG Gly	GAC Asp	AAT Asn	GAC Asp	TGT Cys	GGG Gly	AAC Asn	AGT Ser	GAA Glu	GAT Asp	GAG Glu	TCC Ser	AAT Asn	GCC Ala	ACT Thr	TGT Cys	3259
				920				925							930	
TCA Ser	GCC Ala	CGC Arg	ACC Thr	TGC Cys	CCC Pro	CCC Pro	AAC Asn	CAG Gln	TTC Phe	TCC Ser	TGT Cys	GCC Ala	AGT Ser	GGC Gly	CGC Arg	3307
			935					940							945	
TGC Cys	ATC Ile	CCC Pro	ATC Ile	TCC Ser	TGG Trp	ACG Thr	TGT Cys	GAT Asp	CTG Leu	GAT Asp	GAC Asp	GAC Asp	TGT Cys	GGG Gly	GAC Asp	3355
		950					955					960				
CGC Arg	TCT Ser	GAT Asp	GAG Glu	TCT Ser	GCT Ala	TCG Ser	TGT Cys	GCC Ala	TAT Tyr	CCC Pro	ACC Thr	TGC Cys	TTC Phe	CCC Pro	CTG Leu	3403
		965				970					975					
ACT Thr	CAG Gln	TTT Phe	ACC Thr	TGC Cys	AAC Asn	AAT Asn	GGC Gly	AGA Arg	TGT Cys	ATC Ile	AAC Asn	ATC Ile	AAC Asn	TGG Trp	AGA Arg	3451
980					985				990						995	
TGC Cys	GAC Asp	AAT Asn	GAC Asp	AAT Asn	GAC Asp	TGT Cys	GGG Gly	GAC Asp	AAC Asn	AGT Ser	GAC Asp	GAA Glu	GCC Ala	GGC Gly	TGC Cys	3499
				1000				1005						1010		
AGC Ser	CAC His	TCC Ser	TGT Cys	TCT Ser	AGC Ser	ACC Thr	CAG Gln	TTC Phe	AAG Lys	TGC Cys	AAC Asn	AGC Ser	GGG Gly	CGT Arg	TGC Cys	3547
			1015					1020					1025			
ATC Ile	CCC Pro	GAG Glu	CAC His	TGG Trp	ACC Thr	TGC Cys	GAT Asp	GGG Gly	GAC Asp	AAT Asn	GAC Asp	TGC Cys	GGA Gly	GAC Asp	TAC Tyr	3595
	1030						1035					1040				
AGT Ser	GAT Asp	GAG Glu	ACA Thr	CAC His	GCC Ala	AAC Asn	TGC Cys	ACC Thr	AAC Asn	CAG Gln	GCC Ala	ACG Thr	AGG Arg	CCC Pro	CCT Pro	3643
1045						1050				1055						
GGT Gly	GGC Gly	TGC Cys	CAC His	ACT Thr	GAT Asp	GAG Glu	TTC Phe	CAG Gln	TGC Cys	CGG Arg	CTG Leu	GAT Asp	GGA Gly	CTA Leu	TGC Cys	3691
1060					1065			1070						1075		
ATC Ile	CCC Pro	CTG Leu	CGG Arg	TGG Trp	CGC Arg	TGC Cys	GAT Asp	GGG Gly	GAC Asp	ACT Thr	GAC Asp	TGC Cys	ATG Met	GAC Asp	TCC Ser	3739
				1080				1085					1090			
AGC Ser	GAT Asp	GAG Glu	AAG Lys	AGC Ser	TGT Cys	GAG Glu	GGA Gly	GTG Val	ACC Thr	CAC His	GTC Val	TGC Cys	GAT Asp	CCC Pro	AGT Ser	3787
		1095					1100					1105				
GTC Val	AAG Lys	TTT Phe	GGC Gly	TGC Cys	AAG Lys	GAC Asp	TCA Ser	GCT Ala	CGG Arg	TGC Cys	ATC Ile	AGC Ser	AAA Lys	GCG Ala	TGG Trp	3835
	1110					1115					1120					
GTG Val	TGT Cys	GAT Asp	GGC Gly	GAC Asp	AAT Asn	GAC Asp	TGT Cys	GAG Glu	GAT Asp	AAC Asn	TCG Ser	GAC Asp	GAG Glu	GAG Glu	AAC Asn	3883
1125					1130			1135								
TGC Cys	GAG Glu	TCC Ser	CTG Leu	GCC Ala	TGC Cys	AGG Arg	CCA Pro	CCC Pro	TCG Ser	CAC His	CCT Pro	TGT Cys	GCC Ala	AAC Asn	AAC Asn	3931
1140				1145					1150					1155		

FIG. 14A

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ACC TCA GTC TGC CTG CCC CCT GAC AAG CTG TGT GAT GGC AAC GAC GAC	3979
Thr Ser Val Cys Leu Pro Pro Asp Lys Leu Cys Asp Gly Asn Asp Asp	
1160 1165 1170	
TGT GGC GAC GGC TCA GAT GAG GGC GAG CTC TGC GAC CAG TGC TCT CTG	4027
Cys Gly Asp Gly Ser Asp Glu Gly Glu Leu Cys Asp Gln Cys Ser Leu	
1175 1180 1185	
AAT AAC GGT GGC TGC AGC CAC AAC TGC TCA GTG GCA CCT GGC GAA GGC	4075
Asn Asn Gly Gly Cys Ser His Asn Cys Ser Val Ala Pro Gly Glu Gly	
1190 1195 1200	
ATT GTG TGT TCC TGC CCT CTG GGC ATG GAG CTG GGG CCC GAC AAC CAC	4123
Ile Val Cys Ser Cys Pro Leu Gly Met Glu Leu Gly Pro Asp Asn His	
1205 1210 1215	
ACC TGC CAG ATC CAG AGC TAC TGT GCC AAG CAT CTC AAA TGC AGC CAA	4171
Thr Cys Gln Ile Gln Ser Tyr Cys Ala Lys His Leu Lys Cys Ser Gln	
1220 1225 1230 1235	
AAG TGC GAC CAG AAC AAG TTC AGC GTG AAG TGC TCC TGC TAC GAG GGC	4219
Lys Cys Asp Gln Asn Lys Phe Ser Val Lys Cys Ser Cys Tyr Glu Gly	
1240 1245 1250	
TGG GTC CTG GAA CCT GAC GGC GAG AGC TGC CGC AGC CTG GAC CCC TTC	4267
Trp Val Leu Glu Pro Asp Gly Glu Ser Cys Arg Ser Leu Asp Pro Phe	
1255 1260 1265	
AAG CCG TTC ATC ATT TTC TCC AAC CGC CAT GAA ATC CGG CGC ATC GAT	4315
Lys Pro Phe Ile Ile Phe Ser Asn Arg His Glu Ile Arg Arg Ile Asp	
1270 1275 1280	
CTT CAC AAA GGA GAC TAC AGC GTC CTG GTG CCC GGC CTG CGC AAC ACC	4363
Leu His Lys Gly Asp Tyr Ser Val Leu Val Pro Gly Leu Arg Asn Thr	
1285 1290 1295	
ATC GCC CTG GAC TTC CAC CTC AGC CAG AGC GCC CTC TAC TGG ACC GAC	4411
Ile Ala Leu Asp Phe His Leu Ser Gln Ser Ala Leu Tyr Trp Thr Asp	
1300 1305 1310 1315	
GTG GTG GAG GAC AAG ATC TAC CGC GGG AAG CTG CTG GAC AAC GGA GCC	4459
Val Val Glu Asp Lys Ile Tyr Arg Gly Lys Leu Leu Asp Asn Gly Ala	
1320 1325 1330	
CTG ACT AGT TTC GAG GTG GTG ATT CAG TAT GGC CTG GCC ACA CCC GAG	4507
Leu Thr Ser Phe Glu Val Val Ile Gln Tyr Gly Leu Ala Thr Pro Glu	
1335 1340 1345	
GGC CTG GCT GTA GAC TGG ATT GCA GGC AAC ATC TAC TGG GTG GAG AGT	4555
Gly Leu Ala Val Asp Trp Ile Ala Gly Asn Ile Tyr Trp Val Glu Ser	
1350 1355 1360	
AAC CTG GAT CAG ATC GAG GTG GCC AAG CTG GAT GGG ACC CTC CGG ACC	4603
Asn Leu Asp Gln Ile Glu Val Ala Lys Leu Asp Gly Thr Leu Arg Thr	
1365 1370 1375	
ACC CTG CTG GCC GGT GAC ATT GAG CAC CCA AGG GCA ATC GCA CTG GAT	4651
Thr Leu Leu Ala Gly Asp Ile Glu His Pro Arg Ala Ile Ala Leu Asp	
1380 1385 1390 1395	

FIG. 14A

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(Sheet 68 of 91)

CCC CGG GAT GGG ATC CTG TTT TGG ACA GAC TGG GAT GCC AGC CTG CCC Pro Arg Asp Gly Ile Leu Phe Trp Thr Asp Trp Asp Ala Ser Leu Pro 1400 1405 1410	4699
CGC ATT GAG GCA GCC TCC ATG AGT GGG GCT GGG CGC CGC ACC GTG CAC Arg Ile Glu Ala Ala Ser Met Ser Gly Ala Gly Arg Arg Thr Val His 1415 1420 1425	4747
CGG GAG ACC GGC TCT GGG GGC TGG CCC AAC GGG CTC ACC GTG GAC TAC Arg Glu Thr Gly Ser Gly Gly Trp Pro Asn Gly Leu Thr Val Asp Tyr 1430 1435 1440	4795
CTG GAG AAG CGC ATC CTT TGG ATT GAC GCC AGG TCA GAT GCC ATT TAC Leu Glu Lys Arg Ile Leu Trp Ile Asp Ala Arg Ser Asp Ala Ile Tyr 1445 1450 1455	4843
TCA GCC CGT TAC GAC GGC TCT GGC CAC ATG GAG GTG CTT CGG GGA CAC Ser Ala Arg Tyr Asp Gly Ser Gly His Met Glu Val Leu Arg Gly His 1460 1465 1470 1475	4891
GAG TTC CTG TCG CAC CCG TTT GCA GTG ACG CTG TAC GGG GGG GAG GTC Glu Phe Leu Ser His Pro Phe Ala Val Thr Leu Tyr Gly Gly Glu Val 1480 1485 1490	4939
TAC TGG ACT GAC TGG CGA ACA AAC ACA CTG GCT AAG GCC AAC AAG TGG Tyr Trp Thr Asp Trp Arg Thr Asn Thr Leu Ala Lys Ala Asn Lys Trp 1495 1500 1505	4987
ACC GGC CAC AAT GTC ACC GTG GTA CAG AGG ACC AAC ACC CAG CCC TTT Thr Gly His Asn Val Thr Val Val Gln Arg Thr Asn Thr Gln Pro Phe 1510 1515 1520	5035
GAC CTG CAG GTG TAC CAC CCC TCC CGC CAG CCC ATG GCT CCC AAT CCC Asp Leu Gln Val Tyr His Pro Ser Arg Gln Pro Met Ala Pro Asn Pro 1525 1530 1535	5083
TGT GAG GCC AAT GGG GGC CAG GGC CCC TGC TCC CAC CTG TGT CTC ATC Cys Glu Ala Asn Gly Gly Gln Gly Pro Cys Ser His Leu Cys Leu Ile 1540 1545 1550 1555	5131
AAC TAC AAC CGG ACC GTG TCC TGC GCC TGC CCC CAC CTC ATG AAG CTC Asn Tyr Asn Arg Thr Val Ser Cys Ala Cys Pro His Leu Met Lys Leu 1560 1565 1570	5179
CAC AAG GAC AAC ACC ACC TGC TAT GAG TTT AAG AAG TTC CTG CTG TAC His Lys Asp Asn Thr Thr Cys Tyr Glu Phe Lys Lys Phe Leu Leu Tyr 1575 1580 1585	5227
GCA CGT CAG ATG GAG ATC CGA GGT GTG GAC CTG GAT GCT CCC TAC TAC Ala Arg Gln Met Glu Ile Arg Gly Val Asp Leu Asp Ala Pro Tyr Tyr 1590 1595 1600	5275
AAC TAC ATC ATC TCC TTC ACG GTG CCC GAC ATC GAC AAC GTC ACA GTG Asn Tyr Ile Ile Ser Phe Thr Val Pro Asp Ile Asp Asn Val Thr Val 1605 1610 1615	5323
CTA GAC TAC GAT GCC CGC GAG CAG CGT GTG TAC TGG TCT GAC GTG CGG Leu Asp Tyr Asp Ala Arg Glu Gln Arg Val Tyr Trp Ser Asp Val Arg 1620 1625 1630 1635	5371

FIG. 14A

ACA CAG GCC ATC AAG CGG GCC TTC ATC AAC GGC ACA GGC GTG GAG ACA	5419
Thr Gln Ala Ile Lys Arg Ala Phe Ile Asn Gly Thr Gly Val Glu Thr	
1640 1645 1650	
GTC GTC TCT GCA GAC TTG CCA AAT GCC CAC GGG CTG GCT GTG GAC TGG	5467
Val Val Ser Ala Asp Leu Pro Asn Ala His Gly Leu Ala Val Asp Trp	
1655 1660 1665	
GTC TCC CGA AAC CTG TTC TGG ACA AGC TAT GAC ACC AAT AAG AAG CAG	5515
Val Ser Arg Asn Leu Phe Trp Thr Ser Tyr Asp Thr Asn Lys Lys Gln	
1670 1675 1680	
ATC AAT GTG GCC CGG CTG GAT GGC TCC TTC AAG AAC GCA GTG GTG CAG	5563
Ile Asn Val Ala Arg Leu Asp Gly Ser Phe Lys Asn Ala Val Val Gln	
1685 1690 1695	
GGC CTG GAG CAG CCC CAT GGC CTT GTC GTC CAC CCT CTG CGT GGG AAG	5611
Gly Leu Glu Gln Pro His Gly Leu Val Val His Pro Leu Arg Gly Lys	
1700 1705 1710 1715	
CTC TAC TGG ACC GAT GGT GAC AAC ATC AGC ATG GCC AAC ATG GAT GGC	5659
Leu Tyr Trp Thr Asp Gly Asp Asn Ile Ser Met Ala Asn Met Asp Gly	
1720 1725 1730	
AGC AAT CGC ACC CTG CTC TTC AGT GGC CAG AAG GGC CCC GTG GGC CTG	5707
Ser Asn Arg Thr Leu Leu Phe Ser Gly Gln Lys Gly Pro Val Gly Leu	
1735 1740 1745	
GCT ATT GAC TTC CCT GAA AGC AAA CTC TAC TGG ATC AGC TCC GGG AAC	5755
Ala Ile Asp Phe Pro Glu Ser Lys Leu Tyr Trp Ile Ser Ser Gly Asn	
1750 1755 1760	
CAT ACC ATC AAC CGC TGC AAC CTG GAT GGG AGT GGG CTG GAG GTC ATC	5803
His Thr Ile Asn Arg Cys Asn Leu Asp Gly Ser Gly Leu Glu Val Ile	
1765 1770 1775	
GAT GCC ATG CGG AGC CAG CTG GGC AAG GCC ACC GCC CTG GCC ATC ATG	5851
Asp Ala Met Arg Ser Gln Leu Gly Lys Ala Thr Ala Leu Ala Ile Met	
1780 1785 1790 1795	
GGG GAC AAG CTG TGG TGG GCT GAT CAG GTG TCG GAA AAG ATG GGC ACA	5899
Gly Asp Lys Leu Trp Trp Ala Asp Gln Val Ser Glu Lys Met Gly Thr	
1800 1805 1810	
TGC AGC AAG GCT GAC GGC TCG GGC TCC GTG GTC CTT CGG AAC AGC ACC	5947
Cys Ser Lys Ala Asp Gly Ser Gly Ser Val Val Leu Arg Asn Ser Thr	
1815 1820 1825	
ACC CTG GTG ATG CAC ATG AAG GTC TAT GAC GAG AGC ATC CAG CTG GAC	5995
Thr Leu Val Met His Met Lys Val Tyr Asp Glu Ser Ile Gln Leu Asp	
1830 1835 1840	
CAT AAG GGC ACC AAC CCC TGC AGT GTC AAC AAC GGT GAC TGC TCC CAG	6043
His Lys Gly Thr Asn Pro Cys Ser Val Asn Asn Gly Asp Cys Ser Gln	
1845 1850 1855	
CTC TGC CTG CCC ACG TCA GAG ACG ACC CGC TCC TGC ATG TGC ACA GCC	6091
Leu Cys Leu Pro Thr Ser Glu Thr Thr Arg Ser Cys Met Cys Thr Ala	
1860 1865 1870 1875	

FIG. 14A

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(Sheet 70 of 91)

GGC TAT AGC CTC CGG AGT GGC CAG CAG GCC TGC GAG GGC GTA GGT TCC Gly Tyr Ser Leu Arg Ser Gly Gln Gln Ala Cys Glu Gly Val Gly Ser 1880 1885 1890	6139
TTT CTC CTG TAC TCT GTG CAT GAG GGA ATC AGG GGA ATT CCC CTG GAT Phe Leu Leu Tyr Ser Val His Glu Gly Ile Arg Gly Ile Pro Leu Asp 1895 1900 1905	6187
CCC AAT GAC AAG TCA GAT GCC CTG GTC CCA GTG TCC GGG ACC TCG CTG Pro Asn Asp Lys Ser Asp Ala Leu Val Pro Val Ser Gly Thr Ser Leu 1910 1915 1920	6235
GCT GTC GGC ATC GAC TTC CAC GCT GAA AAT GAC ACC ATC TAC TGG GTG Ala Val Gly Ile Asp Phe His Ala Glu Asn Asp Thr Ile Tyr Trp Val 1925 1930 1935	6283
GAC ATG GGC CTG AGC ACG ATC AGC CGG GCC AAG CGG GAC CAG ACG TGG Asp Met Gly Leu Ser Thr Ile Ser Arg Ala Lys Arg Asp Gln Thr Trp 1940 1945 1950 1955	6331
CGT GAA GAC GTG GTG ACC AAT GGC ATT GGC CGT GTG GAG GGC ATT GCA Arg Glu Asp Val Val Thr Asn Gly Ile Gly Arg Val Glu Gly Ile Ala 1960 1965 1970	6379
GTG GAC TGG ATC GCA GGC AAC ATC TAC TGG ACA GAC CAG GGC TTT GAT Val Asp Trp Ile Ala Gly Asn Ile Tyr Trp Thr Asp Gln Gly Phe Asp 1975 1980 1985	6427
GTC ATC GAG GTC GCC CGG CTC AAT GGC TCC TTC CGC TAC GTG GTG ATC Val Ile Glu Val Ala Arg Leu Asn Gly Ser Phe Arg Tyr Val Val Ile 1990 1995 2000	6475
TCC CAG GGT CTA GAC AAG CCC CGG GCC ATC ACC GTC CAC CCG GAG AAA Ser Gln Gly Leu Asp Lys Pro Arg Ala Ile Thr Val His Pro Glu Lys 2005 2010 2015	6523
GGG TAC TTG TTC TGG ACT GAG TGG GGT CAG TAT CCG CGT ATT GAG CGG Gly Tyr Leu Phe Trp Thr Glu Trp Gly Gln Tyr Pro Arg Ile Glu Arg 2020 2025 2030 2035	6571
TCT CGG CTA GAT GGC ACG GAG CGT GTG GTG CTG GTC AAC GTC AGC ATC Ser Arg Leu Asp Gly Thr Glu Arg Val Val Leu Val Asn Val Ser Ile 2040 2045 2050	6619
AGC TGG CCC AAC GGC ATC TCA GTG GAC TAC CAG GAT GGG AAG CTG TAC Ser Trp Pro Asn Gly Ile Ser Val Asp Tyr Gln Asp Gly Lys Leu Tyr 2055 2060 2065	6667
TGG TGC GAT GCA CGG ACA GAC AAG ATT GAA CGG ATC GAC CTG GAG ACA Trp Cys Asp Ala Arg Thr Asp Lys Ile Glu Arg Ile Asp Leu Glu Thr 2070 2075 2080	6715
GGT GAG AAC CGC GAG GTG GTT CTG TCC AGC AAC AAC ATG GAC ATG TTT Gly Glu Asn Arg Glu Val Val Leu Ser Ser Asn Asn Met Asp Met Phe 2085 2090 2095	6763
TCA GTG TCT GTG TTT GAG GAT TTC ATC TAC TGG AGT GAC AGG ACT CAT Ser Val Ser Val Phe Glu Asp Phe Ile Tyr Trp Ser Asp Arg Thr His 2100 2105 2110 2115	6811

FIG. 14A

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(Sheet 71 of 91)

GCC AAC GGC TCT ATC AAG CGC GGG AGC AAA GAC AAT GCC ACA GAC TCC Ala Asn Gly Ser Ile Lys Arg Gly Ser Lys Asp Asn Ala Thr Asp Ser 2120 2125 2130	6859
GTG CCC CTG CGA ACC GGC ATC GGC GTC CAG CTT AAA GAC ATC AAA GTC Val Pro Leu Arg Thr Gly Ile Gly Val Gln Leu Lys Asp Ile Lys Val 2135 2140 2145	6907
TTC AAC CGG GAC CGG CAG AAA GGC ACC AAC GTG TGC GCG GTG GCC AAT Phe Asn Arg Asp Arg Gln Lys Gly Thr Asn Val Cys Ala Val Ala Asn 2150 2155 2160	6955
GGC GGG TGC CAG CAG CTG TGC CTG TAC CGG GGC CGT GGG CAG CGG GCC Gly Gly Cys Gln Gln Leu Cys Leu Tyr Arg Gly Arg Gly Gln Arg Ala 2165 2170 2175	7003
TGC GCC TGT GCC CAC GGG ATG CTG GCT GAA GAC GGA GCA TCG TGC CGC Cys Ala Cys Ala His Gly Met Leu Ala Glu Asp Gly Ala Ser Cys Arg 2180 2185 2190 2195	7051
GAG TAT GCC GGC TAC CTG CTC TAC TCA GAG CGC ACC ATT CTC AAG AGT Glu Tyr Ala Gly Tyr Leu Leu Tyr Ser Glu Arg Thr Ile Leu Lys Ser 2200 2205 2210	7099
ATC CAC CTG TCG GAT GAG CGC AAC CTC AAT GCG CCC GTG CAG CCC TTC Ile His Leu Ser Asp Glu Arg Asn Leu Asn Ala Pro Val Gln Pro Phe 2215 2220 2225	7147
GAG GAC CCT GAG CAC ATG AAG AAC GTC ATC GCC CTG GCC TTT GAC TAC Glu Asp Pro Glu His Met Lys Asn Val Ile Ala Leu Ala Phe Asp Tyr 2230 2235 2240	7195
CGG GCA GGC ACC TCT CCG GGC ACC CCC AAT CGC ATC TTC TTC AGC GAC Arg Ala Gly Thr Ser Pro Gly Thr Pro Asn Arg Ile Phe Phe Ser Asp 2245 2250 2255	7243
ATC CAC TTT GGG AAC ATC CAA CAG ATC AAC GAC GAT GGC TCC AGG AGG Ile His Phe Gly Asn Ile Gln Gln Ile Asn Asp Asp Gly Ser Arg Arg 2260 2265 2270 2275	7291
ATC ACC ATT GTG GAA AAC GTG GGC TCC GTG GAA GGC CTG GCC TAT CAC Ile Thr Ile Val Glu Asn Val Gly Ser Val Glu Gly Leu Ala Tyr His 2280 2285 2290	7339
CGT GGC TGG GAC ACT CTC TAT TGG ACA AGC TAC ACG ACA TCC ACC ATC Arg Gly Trp Asp Thr Leu Tyr Trp Thr Ser Tyr Thr Thr Ser Thr Ile 2295 2300 2305	7387
ACG CGC CAC ACA GTG GAC CAG ACC CGC CCA GGG GCC TTC GAG CGT GAG Thr Arg His Thr Val Asp Gln Thr Arg Pro Gly Ala Phe Glu Arg Glu 2310 2315 2320	7435
ACC GTC ATC ACT ATG TCT GGA GAT GAC CAC CCA CGG GCC TTC GTT TTG Thr Val Ile Thr Met Ser Gly Asp Asp His Pro Arg Ala Phe Val Leu 2325 2330 2335	7483
GAC GAG TGC CAG AAC CTC ATG TTC TGG ACC AAC TGG AAT GAG CAG CAT Asp Glu Cys Gln Asn Leu Met Phe Trp Thr Asn Trp Asn Glu Gln His 2340 2345 2350 2355	7531

FIG. 14A

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(Sheet 72 of 91)

CCC AGC ATC ATG CGG GCG GCG CTC TCG GGA GCC AAT GTC CTG ACC CTT Pro Ser Ile Met Arg Ala Ala Leu Ser Gly Ala Asn Val Leu Thr Leu 2360 2365 2370	7579
ATC GAG AAG GAC ATC CGT ACC CCC AAT GGC CTG GCC ATC GAC CAC CGT Ile Glu Lys Asp Ile Arg Thr Pro Asn Gly Leu Ala Ile Asp His Arg 2375 2380 2385	7627
GCC GAG AAG CTC TAC TTC TCT GAC GCC ACC CTG GAC AAG ATC GAG CGG Ala Glu Lys Leu Tyr Phe Ser Asp Ala Thr Leu Asp Lys Ile Glu Arg 2390 2395 2400	7675
TGC GAG TAT GAC GGC TCC CAC CGC TAT GTG ATC CTA AAG TCA GAG CCT Cys Glu Tyr Asp Gly Ser His Arg Tyr Val Ile Leu Lys Ser Glu Pro 2405 2410 2415	7723
GTC CAC CCC TTC GGG CTG GCC GTG TAT GGG GAG CAC ATT TTC TGG ACT Val His Pro Phe Gly Leu Ala Val Tyr Gly Glu His Ile Phe Trp Thr 2420 2425 2430 2435	7771
GAC TGG GTG CGG CGG GCA GTG CAG CGG GCC AAC AAG CAC GTG GGC AGC Asp Trp Val Arg Arg Ala Val Gln Arg Ala Asn Lys His Val Gly Ser 2440 2445 2450	7819
AAC ATG AAG CTG CTG CGC GTG GAC ATC CCC CAG CAG CCC ATG GGC ATC Asn Met Lys Leu Leu Arg Val Asp Ile Pro Gln Gln Pro Met Gly Ile 2455 2460 2465	7867
ATC GCC GTG GCC AAC GAC ACC AAC AGC TGT GAA CTC TCT CCA TGC CGA Ile Ala Val Ala Asn Asp Thr Asn Ser Cys Glu Leu Ser Pro Cys Arg 2470 2475 2480	7915
ATC AAC AAC GGT GGC TGC CAG GAC CTG TGT CTG CTC ACT CAC CAG GGC Ile Asn Asn Gly Gly Cys Gln Asp Leu Cys Leu Leu Thr His Gln Gly 2485 2490 2495	7963
CAT GTC AAC TGC TCA TGC CGA GGG GGC CGA ATC CTC CAG GAT GAC CTC His Val Asn Cys Ser Cys Arg Gly Gly Arg Ile Leu Gln Asp Asp Leu 2500 2505 2510 2515	8011
ACC TGC CGA GCG GTG AAT TCC TCT TGC CGA GCA CAA GAT GAG TTT GAG Thr Cys Arg Ala Val Asn Ser Ser Cys Arg Ala Gln Asp Glu Phe Glu 2520 2525 2530	8059
TGT GCC AAT GGC GAG TGC ATC AAC TTC AGC CTG ACC TGC GAC GGC GTC Cys Ala Asn Gly Glu Cys Ile Asn Phe Ser Leu Thr Cys Asp Gly Val 2535 2540 2545	8107
CCC CAC TGC AAG GAC AAG TCC GAT GAG AAG CCA TCC TAC TGC AAC TCC Pro His Cys Lys Asp Lys Ser Asp Glu Lys Pro Ser Tyr Cys Asn Ser 2550 2555 2560	8155
CGC CGC TGC AAG AAG ACT TTC CGG CAG TGC AGC AAT GGC CGC TGT GTG Arg Arg Cys Lys Lys Thr Phe Arg Gln Cys Ser Asn Gly Arg Cys Val 2565 2570 2575	8203
TCC AAC ATG CTG TGG TGC AAC GGG GCC GAC GAC TGT GGG GAT GGC TCT Ser Asn Met Leu Trp Cys Asn Gly Ala Asp Asp Cys Gly Asp Gly Ser 2580 2585 2590 2595	8251

FIG. 14A

8449-134

(Sheet 73 of 91)

GAC GAG ATC CCT TGC AAC AAG ACA GCC TGT GGT GTG GGC GAG TTC CGC Asp Glu Ile Pro Cys Asn Lys Thr Ala Cys Gly Val Gly Glu Phe Arg 2600 2605 2610	8299
TGC CGG GAC GGG ACC TGC ATC GGG AAC TCC AGC CGC TGC AAC CAG TTT Cys Arg Asp Gly Thr Cys Ile Gly Asn Ser Ser Arg Cys Asn Gln Phe 2615 2620 2625	8347
GTG GAT TGT GAG GAC GCC TCA GAT GAG ATG AAC TGC AGT GCC ACC GAC Val Asp Cys Glu Asp Ala Ser Asp Glu Met Asn Cys Ser Ala Thr Asp 2630 2635 2640	8395
TGC AGC AGC TAC TTC CGC CTG GGC GTG AAG GGC GTG CTC TTC CAG CCC Cys Ser Ser Tyr Phe Arg Leu Gly Val Lys Gly Val Leu Phe Gln Pro 2645 2650 2655	8443
TGC GAG CGG ACC TCA CTC TGC TAC GCA CCC AGC TGG GTG TGT GAT GGC Cys Glu Arg Thr Ser Leu Cys Tyr Ala Pro Ser Trp Val Cys Asp Gly 2660 2665 2670 2675	8491
GCC AAT GAC TGT GGG GAC TAC AGT GAT GAG CGC GAC TGC CCA GGT GTG Ala Asn Asp Cys Gly Asp Tyr Ser Asp Glu Arg Asp Cys Pro Gly Val 2680 2685 2690	8539
AAA CGC CCC AGA TGC CCT CTG AAT TAC TTC GCC TGC CCT AGT GGG CGC Lys Arg Pro Arg Cys Pro Leu Asn Tyr Phe Ala Cys Pro Ser Gly Arg 2695 2700 2705	8587
TGC ATC CCC ATG AGC TGG ACG TGT GAC AAA GAG GAT GAC TGT GAA CAT Cys Ile Pro Met Ser Trp Thr Cys Asp Lys Glu Asp Asp Cys Glu His 2710 2715 2720	8635
GGC GAG GAC GAG ACC CAC TGC AAC AAG TTC TGC TCA GAG GCC CAG TTT Gly Glu Asp Glu Thr His Cys Asn Lys Phe Cys Ser Glu Ala Gln Phe 2725 2730 2735	8683
GAG TGC CAG AAC CAT CGC TGC ATC TCC AAG CAG TGG CTG TGT GAC GGC Glu Cys Gln Asn His Arg Cys Ile Ser Lys Gln Trp Leu Cys Asp Gly 2740 2745 2750 2755	8731
AGC GAT GAC TGT GGG GAT GGC TCA GAC GAG GCT GCT CAC TGT GAA GGC Ser Asp Asp Cys Gly Asp Gly Ser Asp Glu Ala Ala His Cys Glu Gly 2760 2765 2770	8779
AAG ACG TGC GGC CCC TCC TCC TTC TCC TGC CCT GGC ACC CAC GTG TGC Lys Thr Cys Gly Pro Ser Ser Phe Ser Cys Pro Gly Thr His Val Cys 2775 2780 2785	8827
GTC CCC GAG CGC TGG CTC TGT GAC GGT GAC AAA GAC TGT GCT GAT GGT Val Pro Glu Arg Trp Leu Cys Asp Gly Asp Lys Asp Cys Ala Asp Gly 2790 2795 2800	8875
GCA GAC GAG AGC ATC GCA GCT GGT TGC TTG TAC AAC AGC ACT TGT GAC Ala Asp Glu Ser Ile Ala Ala Gly Cys Leu Tyr Asn Ser Thr Cys Asp 2805 2810 2815	8923
GAC CGT GAG TTC ATG TGC CAG AAC CGC CAG TGC ATC CCC AAG CAC TTC Asp Arg Glu Phe Met Cys Gln Asn Arg Gln Cys Ile Pro Lys His Phe 2820 2825 2830 2835	8971

FIG. 14A

8449-134

(Sheet 74 of 91)

GTG TGT GAC CAC GAC CGT GAC TGT GCA GAT GGC TCT GAT GAG TCC CCC Val Cys Asp His Asp Arg Asp Cys Ala Asp Gly Ser Asp Glu Ser Pro 2840 2845 2850	9019
GAG TGT GAG TAC CCG ACC TGC GGC CCC AGT GAG TTC CGC TGT GCC AAT Glu Cys Glu Tyr Pro Thr Cys Gly Pro Ser Glu Phe Arg Cys Ala Asn 2855 2860 2865	9067
GGG CGC TGT CTG AGC TCC CGC CAG TGG GAG TGT GAT GGC GAG AAT GAC Gly Arg Cys Leu Ser Ser Arg Glu Ala Trp Glu Cys Asp Gly Glu Asn Asp 2870 2875 2880	9115
TGC CAC GAC CAG AGT GAC GAG GCT CCC AAG AAC CCA CAC TGC ACC AGC Cys His Asp Gln Ser Asp Glu Ala Pro Lys Asn Pro His Cys Thr Ser 2885 2890 2895	9163
CCA GAG CAC AAG TGC AAT GCC TCG TCA CAG TTC CTG TGC AGC AGT GGG Pro Glu His Lys Cys Asn Ala Ser Ser Gln Phe Leu Cys Ser Ser Gly 2900 2905 2910 2915	9211
CGC TGT GTG GCT GAG GCA CTG CTC TGC AAC GGC CAG GAT GAC TGT GGC Arg Cys Val Ala Glu Ala Leu Leu Cys Asn Gly Gln Asp Asp Cys Gly 2920 2925 2930	9259
GAC AGC TCG GAC GAG CGT GGC TGC CAC ATC AAT GAG TGT CTC AGC CGC Asp Ser Ser Asp Glu Arg Gly Cys His Ile Asn Glu Cys Leu Ser Arg 2935 2940 2945	9307
AAG CTC AGT GGC TGC AGC CAG GAC TGT GAG GAC CTC AAG ATC GGC TTC Lys Leu Ser Gly Cys Ser Gln Asp Cys Glu Asp Leu Lys Ile Gly Phe 2950 2955 2960	9355
AAG TGC CGC TGT CGC CCT GGC TTC CGG CTG AAG GAT GAC GGC CGG ACG Lys Cys Arg Cys Arg Pro Gly Phe Arg Leu Lys Asp Asp Gly Arg Thr 2965 2970 2975	9403
TGT GCT GAT GTG GAC GAG TGC AGC ACC ACC TTC CCC TGC AGC CAG CGC Cys Ala Asp Val Asp Glu Cys Ser Thr Thr Phe Pro Cys Ser Gln Arg 2980 2985 2990 2995	9451
TGC ATC AAC ACC CAT GGC AGC TAT AAG TGT CTG TGT GTG GAG GGC TAT Cys Ile Asn Thr His Gly Ser Tyr Lys Cys Leu Cys Val Glu Gly Tyr 3000 3005 3010	9499
GCA CCC CGC GGC GGC GAC CCC CAC AGC TGC AAG GCT GTG ACT GAC GAG Ala Pro Arg Gly Gly Asp Pro His Ser Cys Lys Ala Val Thr Asp Glu 3015 3020 3025	9547
GAA CCG TTT CTG ATC TTC GCC AAC CGG TAC TAC CTG CGC AAG CTC AAC Glu Pro Phe Leu Ile Phe Ala Asn Arg Tyr Tyr Leu Arg Lys Leu Asn 3030 3035 3040	9595
CTG GAC GGG TCC AAC TAC ACG TTA CTT AAG CAG GGC CTG AAC AAC GCC Leu Asp Gly Ser Asn Tyr Thr Leu Leu Lys Gln Gly Leu Asn Asn Ala 3045 3050 3055	9643
GTT GCC TTG GAT TTT GAC TAC CGA GAG CAG ATG ATC TAC TGG ACA GAT Val Ala Leu Asp Phe Asp Tyr Arg Glu Gln Met Ile Tyr Trp Thr Asp 3060 3065 3070 3075	9691

FIG. 14A

8449-134

(Sheet 75 of 91)

GTG ACC ACC CAG GGC AGC ATG ATC CGA AGG ATG CAC CTT AAC GGG AGC Val Thr Thr Gln Gly Ser Met Ile Arg Arg Met His Leu Asn Gly Ser 3080 3085 3090	9739
AAT GTG CAG GTC CTA CAC CGT ACA GGC CTC AGC AAC CCC GAT GGG CTG Asn Val Gln Val Leu His Arg Thr Gly Leu Ser Asn Pro Asp Gly Leu 3095 3100 3105	9787
GCT GTG GAC TGG GTG GGT GGC AAC CTG TAC TGG TGC GAC AAA GGC CGG Ala Val Asp Trp Val Gly Gly Asn Leu Tyr Trp Cys Asp Lys Gly Arg 3110 3115 3120	9835
GAC ACC ATC GAG GTG TCC AAG CTC AAT GGG GCC TAT CGG ACG GTG CTG Asp Thr Ile Glu Val Ser Lys Leu Asn Gly Ala Tyr Arg Thr Val Leu 3125 3130 3135	9883
GTC AGC TCT GGC CTC CGT GAG CCC AGG GCT CTG GTG GTG GAT GTG CAG Val Ser Ser Gly Leu Arg Glu Pro Arg Ala Leu Val Val Asp Val Gln 3140 3145 3150 3155	9931
AAT GGG TAC CTG TAC TGG ACA GAC TGG GGT GAC CAT TCA CTG ATC GGC Asn Gly Tyr Leu Tyr Trp Thr Asp Trp Gly Asp His Ser Leu Ile Gly 3160 3165 3170	9979
CGC ATC GGC ATG GAT GGG TCC AGC CGC AGC GTC ATC GTG GAC ACC AAG Arg Ile Gly Met Asp Gly Ser Ser Arg Ser Val Ile Val Asp Thr Lys 3175 3180 3185	10027
ATC ACA TGG CCC AAT GGC CTG ACG CTG GAC TAT GTC ACT GAG CGC ATC Ile Thr Trp Pro Asn Gly Leu Thr Leu Asp Tyr Val Thr Glu Arg Ile 3190 3195 3200	10075
TAC TGG GCC GAC GCC CGC GAG GAC TAC ATT GAA TTT GCC AGC CTG GAT Tyr Trp Ala Asp Ala Arg Glu Asp Tyr Ile Glu Phe Ala Ser Leu Asp 3205 3210 3215	10123
GGC TCC AAT CGC CAC GTT GTG CTG AGC CAG GAC ATC CCG CAC ATC TTT Gly Ser Asn Arg His Val Val Leu Ser Gln Asp Ile Pro His Ile Phe 3220 3225 3230 3235	10171
GCA CTG ACC CTG TTT GAG GAC TAC GTC TAC TGG ACC GAC TGG GAA ACA Ala Leu Thr Leu Phe Glu Asp Tyr Val Tyr Trp Thr Asp Trp Glu Thr 3240 3245 3250	10219
AAG TCC ATT AAC CGA GCC CAC AAG ACC ACG GGC ACC AAC AAA ACG CTC Lys Ser Ile Asn Arg Ala His Lys Thr Thr Gly Thr Asn Lys Thr Leu 3255 3260 3265	10267
CTC ATC AGC ACG CTG CAC CGG CCC ATG GAC CTG CAT GTC TTC CAT GCC Leu Ile Ser Thr Leu His Arg Pro Met Asp Leu His Val Phe His Ala 3270 3275 3280	10315
CTG CGC CAG CCA GAC GTG CCC AAT CAC CCC TGC AAG GTC AAC AAT GGT Leu Arg Gln Pro Asp Val Pro Asn His Pro Cys Lys Val Asn Asn Gly 3285 3290 3295	10363
GGC TGC AGC AAC CTG TGC CTG CTG TCC CCC GGG GGA GGG CAC AAA TGT Gly Cys Ser Asn Leu Cys Leu Leu Ser Pro Gly Gly Gly His Lys Cys 3300 3305 3310 3315	10411

FIG. 14A

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(Sheet 76 of 91)

GCC TGC CCC ACC AAC TTC TAC CTG GGC AGC GAT GGG CGC ACC TGT GTG Ala Cys Pro Thr Asn Phe Tyr Leu Gly Ser Asp Gly Arg Thr Cys Val 3320 3325 3330	10459
TCC AAC TGC ACG GCT AGC CAG TTT GTA TGC AAG AAC GAC AAG TGC ATC Ser Asn Cys Thr Ala Ser Gln Phe Val Cys Lys Asn Asp Lys Cys Ile 3335 3340 3345	10507
CCC TTC TGG TGG AAG TGT GAC ACC GAG GAC GAC TGC GGG GAC CAC TCA Pro Phe Trp Trp Lys Cys Asp Thr Glu Asp Asp Cys Gly Asp His Ser 3350 3355 3360	10555
GAC GAG CCC CCG GAC TGC CCT GAG TTC AAG TGC CGG CCC GGA CAG TTC Asp Glu Pro Pro Asp Cys Pro Glu Phe Lys Cys Arg Pro Gly Gln Phe 3365 3370 3375	10603
CAG TGC TCC ACA GGT ATC TGC ACA AAC CCT GCC TTC ATC TGC GAT GGC Gln Cys Ser Thr Gly Ile Cys Thr Asn Pro Ala Phe Ile Cys Asp Gly 3380 3385 3390 3395	10651
GAC AAT GAC TGC CAG GAC AAC AGT GAC GAG GCC AAC TGT GAC ATC CAC Asp Asn Asp Cys Gln Asp Asn Ser Asp Glu Ala Asn Cys Asp Ile His 3400 3405 3410	10699
GTC TGC TTG CCC AGT CAG TTC AAA TGC ACC AAC ACC AAC CGC TGT ATT Val Cys Leu Pro Ser Gln Phe Lys Cys Thr Asn Thr Asn Arg Cys Ile 3415 3420 3425	10747
CCC GGC ATC TTC CGC TGC AAT GGG CAG GAC AAC TGC GGA GAT GGG GAG Pro Gly Ile Phe Arg Cys Asn Gly Gln Asp Asn Cys Gly Asp Gly Glu 3430 3435 3440	10795
GAT GAG AGG GAC TGC CCC GAG GTG ACC TGC GCC CCC AAC CAG TTC CAG Asp Glu Arg Asp Cys Pro Glu Val Thr Cys Ala Pro Asn Gln Phe Gln 3445 3450 3455	10843
TGC TCC ATT ACC AAA CGG TGC ATC CCC CGG GTC TGG GTC TGC GAC CGG Cys Ser Ile Thr Lys Arg Cys Ile Pro Arg Val Trp Val Cys Asp Arg 3460 3465 3470 3475	10891
GAC AAT GAC TGT GTG GAT GGC AGT GAT GAG CCC GCC AAC TGC ACC CAG Asp Asn Asp Cys Val Asp Gly Ser Asp Glu Pro Ala Asn Cys Thr Gln 3480 3485 3490	10939
ATG ACC TGT GGT GTG GAC GAG TTC CGC TGC AAG GAT TCG GGC CGC TGC Met Thr Cys Gly Val Asp Glu Phe Arg Cys Lys Asp Ser Gly Arg Cys 3495 3500 3505	10987
ATC CCA GCG CGT TGG AAG TGT GAC GGA GAG GAT GAC TGT GGG GAT GGC Ile Pro Ala Arg Trp Lys Cys Asp Gly Glu Asp Asp Cys Gly Asp Gly 3510 3515 3520	11035
TCG GAT GAG CCC AAG GAA GAG TGT GAT GAA CGC ACC TGT GAG CCA TAC Ser Asp Glu Pro Lys Glu Glu Cys Asp Glu Arg Thr Cys Glu Pro Tyr 3525 3530 3535	11083
CAG TTC CGC TGC AAG AAC AAC CGC TGC GTG CCC GGC CGC TGG CAG TGC Gln Phe Arg Cys Lys Asn Asn Arg Cys Val Pro Gly Arg Trp Gln Cys 3540 3545 3550 3555	11131

FIG. 14A

8449-134

(Sheet 77 of 91)

GAC TAC GAC AAC GAT TGC GGT GAC AAC TCC GAT GAA GAG AGC TGC ACC Asp Tyr Asp Asn Asp Cys Gly Asp Asn Ser Asp Glu Glu Ser Cys Thr 3560 3565 3570	11179
CCT CGG CCC TGC TCC GAG AGT GAG TTC TCC TGT GCC AAC GGC CGC TGC Pro Arg Pro Cys Ser Glu Ser Glu Phe Ser Cys Ala Asn Gly Arg Cys 3575 3580 3585	11227
ATC GCG GGG CGC TGG AAA TGC GAT GGA GAC CAC GAC TGC GCG GAC GGC Ile Ala Gly Arg Trp Lys Cys Asp Gly Asp His Asp Cys Ala Asp Gly 3590 3595 3600	11275
TCG GAC GAG AAA GAC TGC ACC CCC CGC TGT GAC ATG GAC CAG TTC CAG Ser Asp Glu Lys Asp Cys Thr Pro Arg Cys Asp Met Asp Gln Phe Gln 3605 3610 3615	11323
TGC AAG AGC GGC CAC TGC ATC CCC CTG CGC TGG CGC TGT GAC GCA GAC Cys Lys Ser Gly His Cys Ile Pro Leu Arg Trp Arg Cys Asp Ala Asp 3620 3625 3630 3635	11371
GCC GAC TGC ATG GAC GGC AGC GAC GAG GAG GCC TGC GGC ACT GGC GTG Ala Asp Cys Met Asp Gly Ser Asp Glu Glu Ala Cys Gly Thr Gly Val 3640 3645 3650	11419
CGG ACC TGC CCC CTG GAC GAG TTC CAG TGC AAC AAC ACC TTG TGC AAG Arg Thr Cys Pro Leu Asp Glu Phe Gln Cys Asn Asn Thr Leu Cys Lys 3655 3660 3665	11467
CCG CTG GCC TGG AAG TGC GAT GGC GAG GAT GAC TGT GGG GAC AAC TCA Pro Leu Ala Trp Lys Cys Asp Gly Glu Asp Asp Cys Gly Asp Asn Ser 3670 3675 3680	11515
GAT GAG AAC CCC GAG GAG TGT GCC CGG TTC GTG TGC CCT CCC AAC CGG Asp Glu Asn Pro Glu Glu Cys Ala Arg Phe Val Cys Pro Pro Asn Arg 3685 3690 3695	11563
CCC TTC CGT TGC AAG AAT GAC CGC GTC TGT CTG TGG ATC GGG CGC CAA Pro Phe Arg Cys Lys Asn Asp Arg Val Cys Leu Trp Ile Gly Arg Gln 3700 3705 3710 3715	11611
TGC GAT GGC ACG GAC AAC TGT GGG GAT GGG ACT GAT GAA GAG GAC TGT Cys Asp Gly Thr Asp Asn Cys Gly Asp Gly Thr Asp Glu Glu Asp Cys 3720 3725 3730	11659
GAG CCC CCC ACA GCC CAC ACC ACC CAC TGC AAA GAC AAG AAG GAG TTT Glu Pro Pro Thr Ala His Thr Thr His Cys Lys Asp Lys Lys Glu Phe 3735 3740 3745	11707
CTG TGC CGG AAC CAG CGC TGC CTC TCC TCC TCC CTG CGC TGC AAC ATG Leu Cys Arg Asn Gln Arg Cys Leu Ser Ser Ser Leu Arg Cys Asn Met 3750 3755 3760	11755
TTC GAT GAC TGC GGG GAC GGC TCT GAC GAG GAG GAC TGC AGC ATC GAC Phe Asp Asp Cys Gly Asp Gly Ser Asp Glu Glu Asp Cys Ser Ile Asp 3765 3770 3775	11803
CCC AAG CTG ACC AGC TGC GCC ACC AAT GCC AGC ATC TGT GGG GAC GAG Pro Lys Leu Thr Ser Cys Ala Thr Asn Ala Ser Ile Cys Gly Asp Glu 3780 3785 3790 3795	11851

FIG. 14A

8449-134

GCA CGC TGC GTG CGC ACC GAG AAA GCG GCC TAC TGT GCC TGC CGC TCG	11899
Ala Arg Cys Val Arg Thr Glu Lys Ala Ala Tyr Cys Ala Cys Arg Ser	
3800 3805 3810	
GGC TTC CAC ACC GTG CCC GGC CAG CCC GGA TGC CAA GAC ATC AAC GAG	11947
Gly Phe His Thr Val Pro Gly Gln Pro Gly Cys Gln Asp Ile Asn Glu	
3815 3820 3825	
TGC CTG CGC TTC GGC ACC TGC TCC CAG CTC TGC AAC AAC ACC AAG GGC	11995
Cys Leu Arg Phe Gly Thr Cys Ser Gln Leu Cys Asn Asn Thr Lys Gly	
3830 3835 3840	
GGC CAC CTC TGC AGC TGC GCT CGG AAC TTC ATG AAG ACG CAC AAC ACC	12043
Gly His Leu Cys Ser Cys Ala Arg Asn Phe Met Lys Thr His Asn Thr	
3845 3850 3855	
TGC AAG GCC GAA GGC TCT GAG TAC CAG GTC CTG TAC ATC GCT GAT GAC	12091
Cys Lys Ala Glu Gly Ser Glu Tyr Gln Val Leu Tyr Ile Ala Asp Asp	
3860 3865 3870 3875	
AAT GAG ATC CGC AGC CTG TTC CCC GGC CAC CCC CAT TCG GCT TAC GAG	12139
Asn Glu Ile Arg Ser Leu Phe Pro Gly His Pro His Ser Ala Tyr Glu	
3880 3885 3890	
CAG GCA TTC CAG GGT GAC GAG AGT GTC CGC ATT GAT GCT ATG GAT GTC	12187
Gln Ala Phe Gln Gly Asp Glu Ser Val Arg Ile Asp Ala Met Asp Val	
3895 3900 3905	
CAT GTC AAG GCT GGC CGT GTC TAT TGG ACC AAC TGG CAC ACG GGC ACC	12235
His Val Lys Ala Gly Arg Val Tyr Trp Thr Asn Trp His Thr Gly Thr	
3910 3915 3920	
ATC TCC TAC CGC AGC CTG CCA CCT GCT GCG CCT CCT ACC ACT TCC AAC	12283
Ile Ser Tyr Arg Ser Leu Pro Pro Ala Ala Pro Pro Thr Thr Ser Asn	
3925 3930 3935	
CGC CAC CGG CGA CAG ATT GAC CGG GGT GTC ACC CAC CTC AAC ATT TCA	12331
Arg His Arg Arg Gln Ile Asp Arg Gly Val Thr His Leu Asn Ile Ser	
3940 3945 3950 3955	
GGG CTG AAG ATG CCC AGA GGC ATC GCC ATC GAC TGG GTG GCC GGA AAC	12379
Gly Leu Lys Met Pro Arg Gly Ile Ala Ile Asp Trp Val Ala Gly Asn	
3960 3965 3970	
GTG TAC TGG ACC GAC TCG GGC CGA GAT GTG ATT GAG GTG GCG CAG ATG	12427
Val Tyr Trp Thr Asp Ser Gly Arg Asp Val Ile Glu Val Ala Gln Met	
3975 3980 3985	
AAG GGC GAG AAC CGC AAG ACG CTC ATC TCG GGC ATG ATT GAC GAG CCC	12475
Lys Gly Glu Asn Arg Lys Thr Leu Ile Ser Gly Met Ile Asp Glu Pro	
3990 3995 4000	
CAC GCC ATT GTG GTG GAC CCA CTG AGG GGG ACC ATG TAC TGG TCA GAC	12523
His Ala Ile Val Val Asp Pro Leu Arg Gly Thr Met Tyr Trp Ser Asp	
4005 4010 4015	
TGG GGC AAC CAC CCC AAG ATT GAG ACG GCA GCG ATG GAT GGG ACG CTT	12571
Trp Gly Asn His Pro Lys Ile Glu Thr Ala Ala Met Asp Gly Thr Leu	
4020 4025 4030 4035	

FIG. 14A

CGG GAG ACA CTG GTG CAG GAC AAC ATT CAG TGG CCC ACA GGC CTG GCC Arg Glu Thr Leu Val Gln Asp Asn Ile Gln Trp Pro Thr Gly Leu Ala 4040 4045 4050	12619
GTG GAT TAT CAC AAT GAG CGG CTG TAC TGG GCA GAC GCC AAG CTT TCA Val Asp Tyr His Asn Glu Arg Leu Tyr Trp Ala Asp Ala Lys Leu Ser 4055 4060 4065	12667
GTC ATC GGC AGC ATC CGG CTC AAT GGC ACG GAC CCC ATT GTG GCT GCT Val Ile Gly Ser Ile Arg Leu Asn Gly Thr Asp Pro Ile Val Ala Ala 4070 4075 4080	12715
GAC AGC AAA CGA GGC CTA AGT CAC CCC TTC AGC ATC GAC GTC TTT GAG Asp Ser Lys Arg Gly Leu Ser His Pro Phe Ser Ile Asp Val Phe Glu 4085 4090 4095	12763
GAT TAC ATC TAT GGT GTC ACC TAC ATC AAT AAT CGT GTC TTC AAG ATC Asp Tyr Ile Tyr Gly Val Thr Tyr Ile Asn Asn Arg Val Phe Lys Ile 4100 4105 4110 4115	12811
CAT AAG TTT GGC CAC AGC CCC TTG GTC AAC CTG ACA GGG GGC CTG AGC His Lys Phe Gly His Ser Pro Leu Val Asn Leu Thr Gly Gly Leu Ser 4120 4125 4130	12859
CAC GCC TCT GAC GTG GTC CTT TAC CAT CAG CAC AAG CAG CCC GAA GTG His Ala Ser Asp Val Val Leu Tyr His Gln His Lys Gln Pro Glu Val 4135 4140 4145	12907
ACC AAC CCA TGT GAC CGC AAG AAA TGC GAG TGG CTC TGC CTG CTG AGC Thr Asn Pro Cys Asp Arg Lys Lys Cys Glu Trp Leu Cys Leu Leu Ser 4150 4155 4160	12955
CCC AGT GGG CCT GTC TGC ACC TGT CCC AAT GGG AAG CGG CTG GAC AAC Pro Ser Gly Pro Val Cys Thr Cys Pro Asn Gly Lys Arg Leu Asp Asn 4165 4170 4175	13003
GGC ACA TGC GTG CCT GTG CCC TCT CCA ACG CCC CCC CCA GAT GCT CCC Gly Thr Cys Val Pro Val Pro Ser Pro Thr Pro Pro Pro Asp Ala Pro 4180 4185 4190 4195	13051
CGG CCT GGA ACC TGT AAC CTG CAG TGC TTC AAC GGT GGC AGC TGT TTC Arg Pro Gly Thr Cys Asn Leu Gln Cys Phe Asn Gly Gly Ser Cys Phe 4200 4205 4210	13099
CTC AAT GCA CGG AGG CAG CCC AAG TGC CGC TGC CAA CCC CGC TAC ACG Leu Asn Ala Arg Arg Gln Pro Lys Cys Arg Cys Gln Pro Arg Tyr Thr 4215 4220 4225	13147
GGT GAC AAG TGT GAA CTG GAC CAG TGC TGG GAG CAC TGT CGC AAT GGG Gly Asp Lys Cys Glu Leu Asp Gln Cys Trp Glu His Cys Arg Asn Gly 4230 4235 4240	13195
GGC ACC TGT GCT GCC TCC CCC TCT GGC ATG CCC ACG TGC CGG TGC CCC Gly Thr Cys Ala Ala Ser Pro Ser Gly Met Pro Thr Cys Arg Cys Pro 4245 4250 4255	13243
ACG GGC TTC ACG GGC CCC AAA TGC ACC CAG CAG GTG TGT GCG GGC TAC Thr Gly Phe Thr Gly Pro Lys Cys Thr Gln Gln Val Cys Ala Gly Tyr 4260 4265 4270 4275	13291

FIG. 14A

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(Sheet 80 of 91)

TGT GCC AAC AAC AGC ACC TGC ACT GTC AAC CAG GGC AAC CAG CCC CAG 13339
 Cys Ala Asn Asn Ser Thr Cys Thr Val Asn Gln Gly Asn Gln Pro Gln
 4280 4285 4290

TGC CGA TGC CTA CCC GGC TTC CTG GGC GAC CGC TGC CAG TAC CGG CAG 13387
 Cys Arg Cys Leu Pro Gly Phe Leu Gly Asp Arg Cys Gln Tyr Arg Gln
 4295 4300 4305

TGC TCT GGC TAC TGT GAG AAC TTT GGC ACA TGC CAG ATG GCT GCT GAT 13435
 Cys Ser Gly Tyr Cys Glu Asn Phe Gly Thr Cys Gln Met Ala Ala Asp
 4310 4315 4320

GGC TCC CGA CAA TGC CGC TGC ACT GCC TAC TTT GAG GGA TCG AGG TGT 13483
 Gly Ser Arg Gln Cys Arg Cys Thr Ala Tyr Phe Glu Gly Ser Arg Cys
 4325 4330 4335

GAG GTG AAC AAG TGC AGC CGC TGT CTC GAA GGG GCC TGT GTG GTC AAC 13531
 4340 Glu Val Asn Lys Cys Ser Arg Cys Leu Glu Gly Ala Cys Val Val Asn 4355

AAG CAG AGT GGG GAT GTC ACC TGC AAC TGC ACG GAT GGC CGG GTG GCC 13579
 Lys Gln Ser Gly Asp Val Thr Cys Asn Cys Thr Asp Gly Arg Val Ala
 4360 4365 4370

CCC AGC TGT CTG ACC TGC GTC GGC CAC TGC AGC AAT GGC GGC TCC TGT 13627
 Pro Ser Cys Leu Thr Cys Val Gly His Cys Ser Asn Gly Gly Ser Cys
 4375 4380 4385

ACC ATG AAC AGC AAA ATG ATG CCT GAG TGC CAG TGC CCA CCC CAC ATG 13675
 Thr Met Asn Ser Lys Met Met Pro Glu Cys Gln Cys Pro Pro His Met
 4390 4395 4400

ACA GGG CCC CGG TGT GAG GAG CAC GTC TTC AGC CAG CAG CAG CCA GGA 13723
 Thr Gly Pro Arg Cys Glu Glu His Val Phe Ser Gln Gln Gln Pro Gly
 4405 4410 4415

CAT ATA GCC TCC ATC CTA ATC CCT CTG CTG TTG CTG CTG CTG CTG GTT 13771
 4420 His Ile Ala Ser Ile Leu Ile Pro Leu Leu Leu Leu Leu Leu Val 4435

CTG GTG GCC GGA GTG GTA TTC TGG TAT AAG CGG CGA GTC CAA GGG GCT 13819
 Leu Val Ala Gly Val Val Phe Trp Tyr Lys Arg Arg Val Gln Gly Ala
 4440 4445 4450

AAG GGC TTC CAG CAC CAA CGG ATG ACC AAC GGG GCC ATG AAC GTG GAG 13867
 Lys Gly Phe Gln His Gln Arg Met Thr Asn Gly Ala Met Asn Val Glu
 4455 4460 4465

ATT GGA AAC CCC ACC TAC AAG ATG TAC GAA GGC GGA GAG CCT GAT GAT 13915
 Ile Gly Asn Pro Thr Tyr Lys Met Tyr Glu Gly Gly Glu Pro Asp Asp
 4470 4475 4480

GTG GGA GGC CTA CTG GAC GCT GAC TTT GCC CTG GAC CCT GAC AAG CCC 13963
 Val Gly Gly Leu Leu Asp Ala Asp Phe Ala Leu Asp Pro Asp Lys Pro
 4485 4490 4495

ACC AAC TTC ACC AAC CCC GTG TAT GCC ACA CTC TAC ATG GGG GGC CAT 14011
 Thr Asn Phe Thr Asn Pro Val Tyr Ala Thr Leu Tyr Met Gly Gly His
 4500 4505 4510 4515

FIG. 14A

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GGC AGT CGC CAC TCC CTG GCC AGC ACG GAC GAG AAG CGA GAA CTC CTG	14059
Gly Ser Arg His Ser Leu Ala Ser Thr Asp Glu Lys Arg Glu Leu Leu	
4520 4525 4530	
GGC CGG GGC CCT GAG GAC GAG ATA GGG GAC CCC TTG GCA TAGGGCCCTG CC	14110
CCGTCGGACT GGGCCAGAA AGCCTCCTGC CCCCTGCCGG TGAAGTCCTT CAGTGAGCCC	14170
Gly Arg Gly Pro Glu Asp Glu Ile Gly Asp Pro Leu Ala	
4535 4540	
CTCCCCAGCC AGCCCTTCCC TGGCCCCGCC GGATGTATAA ATGTAAAAAT GAAGGAATTA	14230
CATTTTATAT GTGAGCGAGC AAGCCGGCAA GCGAGCACAG TATTATTTCT CCATCCCCTC	14290
CCTGCCTGCT CCTTGGCACC CCCATGCTGC CTTCAGGGAG ACAGGCAGGG AGGGCTTGGG	14350
GCTGCACCTC CTACCTCCC ACCAGAACGC ACCCACTGG GAGAGCTGGT GGTGCAGCCT	14410
TCCCCTCCCT GTATAAGACA CTTTGCCAAG GCTCTCCCT CTCGCCCCAT CCCTGCTTGC	14470
CCGCTCCCAC AGCTTCCTGA GGGCTAATTC TGGGAAGGGA GAGTTCTTTG CTGCCCCTGT	14530
CTGGAAGACG TGGCTCTGGG TGAGGTAGGC GGGAAAGGAT GGAGTGTTTT AGTTCTTGGG	14590
GGAGGCCACC CCAAACCCA GCCCCAATC CAGGGGCACC TATGAGATGG CCATGCTCAA	14650
CCCCCTCCC AGACAGGCC TCCCTGTCTC CAGGGCCCCC ACCGAGGTTT CCAGGGCTGG	14710
AGACTTCCTC TGGTAAACAT TCCTCCAGCC TCCCCTCCCC TGGGGACGCC AAGGAGGTGG	14770
GCCACACCCA GGAAGGGAAA GCGGGCAGCC CCGTTTTGGG GACGTGAACG TTTTAATAAT	14830
TTTTGCTGAA TTCTTTACAA CTAAATAACA CAGATATTCT TATAAATAAA ATTGTAAAAA	14890
AAAAAA	14896

FIG. 14A

Met	Leu	Thr	Pro	Pro	Leu	Leu	Leu	Leu	Leu	Pro	Leu	Leu	Ser	Ala	Leu
1				5					10					15	
Val	Ala	Ala	Ala	Ile	Asp	Ala	Pro	Lys	Thr	Cys	Ser	Pro	Lys	Gln	Phe
			20					25					30		
Ala	Cys	Arg	Asp	Gln	Ile	Thr	Cys	Ile	Ser	Lys	Gly	Trp	Arg	Cys	Asp
		35					40					45			
Gly	Glu	Arg	Asp	Cys	Pro	Asp	Gly	Ser	Asp	Glu	Ala	Pro	Glu	Ile	Cys
	50					55					60				
Pro	Gln	Ser	Lys	Ala	Gln	Arg	Cys	Gln	Pro	Asn	Glu	His	Asn	Cys	Leu
65					70				75					80	
Gly	Thr	Glu	Leu	Cys	Val	Pro	Met	Ser	Arg	Leu	Cys	Asn	Gly	Val	Gln
			85					90					95		
Asp	Cys	Met	Asp	Gly	Ser	Asp	Glu	Gly	Pro	His	Cys	Arg	Glu	Leu	Gln
			100					105					110		
Gly	Asn	Cys	Ser	Arg	Leu	Gly	Cys	Gln	His	His	Cys	Val	Pro	Thr	Leu
		115					120					125			
Asp	Gly	Pro	Thr	Cys	Tyr	Cys	Asn	Ser	Ser	Phe	Gln	Leu	Gln	Ala	Asp
	130					135					140				
Gly	Lys	Thr	Cys	Lys	Asp	Phe	Asp	Glu	Cys	Ser	Val	Tyr	Gly	Thr	Cys
145					150					155				160	
Ser	Gln	Leu	Cys	Thr	Asn	Thr	Asp	Gly	Ser	Phe	Ile	Cys	Gly	Cys	Val
				165					170					175	
Glu	Gly	Tyr	Leu	Gln	Pro	Asp	Asn	Arg	Ser	Cys	Lys	Ala	Lys	Asn	
		180					185					190			
Glu	Pro	Val	Asp	Arg	Pro	Pro	Val	Leu	Leu	Ile	Ala	Asn	Ser	Gln	Asn
		195					200					205			
Ile	Leu	Ala	Thr	Tyr	Leu	Ser	Gly	Ala	Gln	Val	Ser	Thr	Ile	Thr	Pro
210						215					220				
Thr	Ser	Thr	Arg	Gln	Thr	Thr	Ala	Met	Asp	Phe	Ser	Tyr	Ala	Asn	Glu
225					230					235					240
Thr	Val	Cys	Trp	Val	His	Val	Gly	Asp	Ser	Ala	Ala	Gln	Thr	Gln	Leu
				245					250					255	
Lys	Cys	Ala	Arg	Met	Pro	Gly	Leu	Lys	Gly	Phe	Val	Asp	Glu	His	Thr
			260					265					270		
Ile	Asn	Ile	Ser	Leu	Ser	Leu	His	Val	Glu	Gln	Met	Ala	Ile	Asp	
		275					280				285				
Trp	Leu	Thr	Gly	Asn	Phe	Tyr	Phe	Val	Asp	Asp	Ile	Asp	Asp	Arg	Ile
	290					295					300				
Phe	Val	Cys	Asn	Arg	Asn	Gly	Asp	Thr	Cys	Val	Thr	Leu	Leu	Asp	Leu
305					310					315				320	
Glu	Leu	Tyr	Asn	Pro	Lys	Gly	Ile	Ala	Leu	Asp	Pro	Ala	Met	Gly	Lys
				325					330					335	
Val	Phe	Phe	Thr	Asp	Tyr	Gly	Gln	Ile	Pro	Lys	Val	Glu	Arg	Cys	Asp
			340					345					350		
Met	Asp	Gly	Gln	Asn	Arg	Thr	Lys	Leu	Val	Asp	Ser	Lys	Ile	Val	Phe
		355					360					365			
Pro	His	Gly	Ile	Thr	Leu	Asp	Leu	Val	Ser	Arg	Leu	Val	Tyr	Trp	Ala
	370					375					380				
Asp	Ala	Tyr	Leu	Asp	Tyr	Ile	Glu	Val	Val	Asp	Tyr	Glu	Gly	Lys	Gly
385					390					395				400	
Arg	Gln	Thr	Ile	Ile	Gln	Gly	Ile	Leu	Ile	Glu	His	Leu	Tyr	Gly	Leu
				405					410					415	
Thr	Val	Phe	Glu	Asn	Tyr	Leu	Tyr	Ala	Thr	Asn	Ser	Asp	Asn	Ala	Asn
			420					425					430		
Ala	Gln	Gln	Lys	Thr	Ser	Val	Ile	Arg	Val	Asn	Arg	Phe	Asn	Ser	Thr
		435					440					445			
Glu	Tyr	Gln	Val	Val	Thr	Arg	Val	Asp	Lys	Gly	Gly	Ala	Leu	His	Ile
450						455					460				

FIG. 14B

Tyr His Gln Arg Arg Gln Pro Arg Val Arg Ser His Ala Cys Glu Asn
 465 470 475 480
 Asp Gln Tyr Gly Lys Pro Gly Gly Cys Ser Asp Ile Cys Leu Leu Ala
 485 490 495
 Asn Ser His Lys Ala Arg Thr Cys Arg Cys Arg Ser Gly Phe Ser Leu
 500 505 510
 Gly Ser Asp Gly Lys Ser Cys Lys Lys Pro Glu His Glu Leu Phe Leu
 515 520 525
 Val Tyr Gly Lys Gly Arg Pro Gly Ile Ile Arg Gly Met Asp Met Gly
 530 535 540
 Ala Lys Val Pro Asp Glu His Met Ile Pro Ile Glu Asn Leu Met Asn
 545 550 555 560
 Pro Arg Ala Leu Asp Phe His Ala Glu Thr Gly Phe Ile Tyr Phe Ala
 565 570 575
 Asp Thr Thr Ser Tyr Leu Ile Gly Arg Gln Lys Ile Asp Gly Thr Glu
 580 585 590
 Arg Glu Thr Ile Leu Lys Asp Gly Ile His Asn Val Glu Gly Val Ala
 595 600 605
 Val Asp Trp Met Gly Asp Asn Leu Tyr Trp Thr Asp Asp Gly Pro Lys
 610 615 620
 Lys Thr Ile Ser Val Ala Arg Leu Glu Lys Ala Ala Gln Thr Arg Lys
 625 630 635 640
 Thr Leu Ile Glu Gly Lys Met Thr His Pro Arg Ala Ile Val Val Asp
 645 650 655
 Pro Leu Asn Gly Trp Met Tyr Trp Thr Asp Trp Glu Glu Asp Pro Lys
 660 665 670
 Asp Ser Arg Arg Gly Arg Leu Glu Arg Ala Trp Met Asp Gly Ser His
 675 680 685
 Arg Asp Ile Phe Val Thr Ser Lys Thr Val Leu Trp Pro Asn Gly Leu
 690 695 700
 Ser Leu Asp Ile Pro Ala Gly Arg Leu Tyr Trp Val Asp Ala Phe Tyr
 705 710 715 720
 Asp Arg Ile Glu Thr Ile Leu Leu Asn Gly Thr Asp Arg Lys Ile Val
 725 730 735
 Tyr Glu Gly Pro Glu Leu Asn His Ala Phe Gly Leu Cys His His Gly
 740 745 750
 Asn Tyr Leu Phe Trp Thr Glu Tyr Arg Ser Gly Ser Val Tyr Arg Leu
 755 760 765
 Glu Arg Gly Val Gly Gly Ala Pro Pro Thr Val Thr Leu Leu Arg Ser
 770 775 780
 Glu Arg Pro Pro Ile Phe Glu Ile Arg Met Tyr Asp Ala Gln Gln Gln
 785 790 795 800
 Gln Val Gly Thr Asn Lys Cys Arg Val Asn Asn Gly Gly Cys Ser Ser
 805 810 815
 Leu Cys Leu Ala Thr Pro Gly Ser Arg Gln Cys Ala Cys Ala Glu Asp
 820 825 830
 Gln Val Leu Asp Ala Asp Gly Val Thr Cys Leu Ala Asn Pro Ser Tyr
 835 840 845
 Val Pro Pro Pro Gln Cys Gln Pro Gly Glu Phe Ala Cys Ala Asn Ser
 850 855 860
 Arg Cys Ile Gln Glu Arg Trp Lys Cys Asp Gly Asp Asn Asp Cys Leu
 865 870 875 880
 Asp Asn Ser Asp Glu Ala Pro Ala Leu Cys His Gln His Thr Cys Pro
 885 890 895
 Ser Asp Arg Phe Lys Cys Glu Asn Asn Arg Cys Ile Pro Asn Arg Trp
 900 905 910
 Leu Cys Asp Gly Asp Asn Asp Cys Gly Asn Ser Glu Asp Glu Ser Asn
 915 920 925

FIG. 14B

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(Sheet 84 of 91)

Ala Thr Cys Ser Ala Arg Thr Cys Pro Pro Asn Gln Phe Ser Cys Ala
 930 935 940
 Ser Gly Arg Cys Ile Pro Ile Ser Trp Thr Cys Asp Leu Asp Asp Asp
 945 950 955 960
 Cys Gly Asp Arg Ser Asp Glu Ser Ala Ser Cys Ala Tyr Pro Thr Cys
 965 970 975
 Phe Pro Leu Thr Gln Phe Thr Cys Asn Asn Gly Arg Cys Ile Asn Ile
 980 985 990
 Asn Trp Arg Cys Asp Asn Asp Asn Asp Cys Gly Asp Asn Ser Asp Glu
 995 1000 1005
 Ala Gly Cys Ser His Ser Cys Ser Ser Thr Gln Phe Lys Cys Asn Ser
 1010 1015 1020
 Gly Arg Cys Ile Pro Glu His Trp Thr Cys Asp Gly Asp Asn Asp Cys
 1025 1030 1035 1040
 Gly Asp Tyr Ser Asp Glu Thr His Ala Asn Cys Thr Asn Gln Ala Thr
 1045 1050 1055
 Arg Pro Pro Gly Cys His Thr Asp Glu Phe Gln Cys Arg Leu Asp
 1060 1065 1070
 Gly Leu Cys Ile Pro Leu Arg Trp Arg Cys Asp Gly Asp Thr Asp Cys
 1075 1080 1085
 Met Asp Ser Ser Asp Glu Lys Ser Cys Glu Gly Val Thr His Val Cys
 1090 1095 1100
 Asp Pro Ser Val Lys Phe Gly Cys Lys Asp Ser Ala Arg Cys Ile Ser
 1105 1110 1115 1120
 Lys Ala Trp Val Cys Asp Gly Asp Asn Asp Cys Glu Asp Asn Ser Asp
 1125 1130 1135
 Glu Glu Asn Cys Glu Ser Leu Ala Cys Arg Pro Pro Ser His Pro Cys
 1140 1145 1150
 Ala Asn Asn Thr Ser Val Cys Leu Pro Pro Asp Lys Leu Cys Asp Gly
 1155 1160 1165
 Asn Asp Asp Cys Gly Asp Gly Ser Asp Glu Gly Glu Leu Cys Asp Gln
 1170 1175 1180
 Cys Ser Leu Asn Asn Gly Gly Cys Ser His Asn Cys Ser Val Ala Pro
 1185 1190 1195 1200
 Gly Glu Gly Ile Val Cys Ser Cys Pro Leu Gly Met Glu Leu Gly Pro
 1205 1210 1215
 Asp Asn His Thr Cys Gln Ile Gln Ser Tyr Cys Ala Lys His Leu Lys
 1220 1225 1230
 Cys Ser Gln Lys Cys Asp Gln Asn Lys Phe Ser Val Lys Cys Ser Cys
 1235 1240 1245
 Tyr Glu Gly Trp Val Leu Glu Pro Asp Gly Glu Ser Cys Arg Ser Leu
 1250 1255 1260
 Asp Pro Phe Lys Pro Phe Ile Ile Phe Ser Asn Arg His Glu Ile Arg
 1265 1270 1275 1280
 Arg Ile Asp Leu His Lys Gly Asp Tyr Ser Val Leu Val Pro Gly Leu
 1285 1290 1295
 Arg Asn Thr Ile Ala Leu Asp Phe His Leu Ser Gln Ser Ala Leu Tyr
 1300 1305 1310
 Trp Thr Asp Val Val Glu Asp Lys Ile Tyr Arg Gly Lys Leu Leu Asp
 1315 1320 1325
 Asn Gly Ala Leu Thr Ser Phe Glu Val Val Ile Gln Tyr Gly Leu Ala
 1330 1335 1340
 Thr Pro Glu Gly Leu Ala Val Asp Trp Ile Ala Gly Asn Ile Tyr Trp
 1345 1350 1355 1360
 Val Glu Ser Asn Leu Asp Gln Ile Glu Val Ala Lys Leu Asp Gly Thr
 1365 1370 1375
 Leu Arg Thr Thr Leu Leu Ala Gly Asp Ile Glu His Pro Arg Ala Ile
 1380 1385 1390

FIG. 14B

Ala Leu Asp Pro Arg Asp Gly Ile Leu Phe Trp Thr Asp Trp Asp Ala
 1395 1400 1405
 Ser Leu Pro Arg Ile Glu Ala Ala Ser Met Ser Gly Ala Gly Arg Arg
 1410 1415 1420
 Thr Val His Arg Glu Thr Gly Ser Gly Gly Trp Pro Asn Gly Leu Thr
 425 1430 1435 1440
 Val Asp Tyr Leu Glu Lys Arg Ile Leu Trp Ile Asp Ala Arg Ser Asp
 1445 1450 1455
 Ala Ile Tyr Ser Ala Arg Tyr Asp Gly Ser Gly His Met Glu Val Leu
 1460 1465 1470
 Arg Gly His Glu Phe Leu Ser His Pro Phe Ala Val Thr Leu Tyr Gly
 1475 1480 1485
 Gly Glu Val Tyr Trp Thr Asp Trp Arg Thr Asn Thr Leu Ala Lys Ala
 1490 1495 1500
 Asn Lys Trp Thr Gly His Asn Val Thr Val Val Gln Arg Thr Asn Thr
 505 1510 1515 1520
 Gln Pro Phe Asp Leu Gln Val Tyr His Pro Ser Arg Gln Pro Met Ala
 1525 1530 1535
 Pro Asn Pro Cys Glu Ala Asn Gly Gly Gln Gly Pro Cys Ser His Leu
 1540 1545 1550
 Cys Leu Ile Asn Tyr Asn Arg Thr Val Ser Cys Ala Cys Pro His Leu
 1555 1560 1565
 Met Lys Leu His Lys Asp Asn Thr Thr Cys Tyr Glu Phe Lys Lys Phe
 1570 1575 1580
 Leu Leu Tyr Ala Arg Gln Met Glu Ile Arg Gly Val Asp Leu Asp Ala
 585 1590 1595 1600
 Pro Tyr Tyr Asn Tyr Ile Ile Ser Phe Thr Val Pro Asp Ile Asp Asn
 1605 1610 1615
 Val Thr Val Leu Asp Tyr Asp Ala Arg Glu Gln Arg Val Tyr Trp Ser
 1620 1625 1630
 Asp Val Arg Thr Gln Ala Ile Lys Arg Ala Phe Ile Asn Gly Thr Gly
 1635 1640 1645
 Val Glu Thr Val Val Ser Ala Asp Leu Pro Asn Ala His Gly Leu Ala
 1650 1655 1660
 Val Asp Trp Val Ser Arg Asn Leu Phe Trp Thr Ser Tyr Asp Thr Asn
 665 1670 1675 1680
 Lys Lys Gln Ile Asn Val Ala Arg Leu Asp Gly Ser Phe Lys Asn Ala
 1685 1690 1695
 Val Val Gln Gly Leu Glu Gln Pro His Gly Leu Val Val His Pro Leu
 1700 1705 1710
 Arg Gly Lys Leu Tyr Trp Thr Asp Gly Asp Asn Ile Ser Met Ala Asn
 1715 1720 1725
 Met Asp Gly Ser Asn Arg Thr Leu Leu Phe Ser Gly Gln Lys Gly Pro
 1730 1735 1740
 Val Gly Leu Ala Ile Asp Phe Pro Glu Ser Lys Leu Tyr Trp Ile Ser
 745 1750 1755 1760
 Ser Gly Asn His Thr Ile Asn Arg Cys Asn Leu Asp Gly Ser Gly Leu
 1765 1770 1775
 Glu Val Ile Asp Ala Met Arg Ser Gln Leu Gly Lys Ala Thr Ala Leu
 1780 1785 1790
 Ala Ile Met Gly Asp Lys Leu Trp Trp Ala Asp Gln Val Ser Glu Lys
 1795 1800 1805
 Met Gly Thr Cys Ser Lys Ala Asp Gly Ser Gly Ser Val Val Leu Arg
 1810 1815 1820
 Asn Ser Thr Thr Leu Val Met His Met Lys Val Tyr Asp Glu Ser Ile
 825 1830 1835 1840
 Gln Leu Asp His Lys Gly Thr Asn Pro Cys Ser Val Asn Asn Gly Asp
 1845 1850 1855
 Cys Ser Gln Leu Cys Leu Pro Thr Ser Glu Thr Thr Arg Ser Cys Met

FIG. 14B

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1860 1865 1870
 Cys Thr Ala Gly Tyr Ser Leu Arg Ser Gly Gln Gln Ala Cys Glu Gly
 1875 1880 1885
 Val Gly Ser Phe Leu Leu Tyr Ser Val His Glu Gly Ile Arg Gly Ile
 1890 1895 1900
 Pro Leu Asp Pro Asn Asp Lys Ser Asp Ala Leu Val Pro Val Ser Gly
 905 1910 1915 1920
 Thr Ser Leu Ala Val Gly Ile Asp Phe His Ala Glu Asn Asp Thr Ile
 1925 1930 1935
 Tyr Trp Val Asp Met Gly Leu Ser Thr Ile Ser Arg Ala Lys Arg Asp
 1940 1945 1950
 Gln Thr Trp Arg Glu Asp Val Val Thr Asn Gly Ile Gly Arg Val Glu
 1955 1960 1965
 Gly Ile Ala Val Asp Trp Ile Ala Gly Asn Ile Tyr Trp Thr Asp Gln
 1970 1975 1980
 Gly Phe Asp Val Ile Glu Val Ala Arg Leu Asn Gly Ser Phe Arg Tyr
 985 1990 1995 2000
 Val Val Ile Ser Gln Gly Leu Asp Lys Pro Arg Ala Ile Thr Val His
 2005 2010 2015
 Pro Glu Lys Gly Tyr Leu Phe Trp Thr Glu Trp Gly Gln Tyr Pro Arg
 2020 2025 2030
 Ile Glu Arg Ser Arg Leu Asp Gly Thr Glu Arg Val Val Leu Val Asn
 2035 2040 2045
 Val Ser Ile Ser Trp Pro Asn Gly Ile Ser Val Asp Tyr Gln Asp Gly
 2050 2055 2060
 Lys Leu Tyr Trp Cys Asp Ala Arg Thr Asp Lys Ile Glu Arg Ile Asp
 065 2070 2075 2080
 Leu Glu Thr Gly Glu Asn Arg Glu Val Val Leu Ser Ser Asn Asn Met
 2085 2090 2095
 Asp Met Phe Ser Val Ser Val Phe Glu Asp Phe Ile Tyr Trp Ser Asp
 2100 2105 2110
 Arg Thr His Ala Asn Gly Ser Ile Lys Arg Gly Ser Lys Asp Asn Ala
 2115 2120 2125
 Thr Asp Ser Val Pro Leu Arg Thr Gly Ile Gly Val Gln Leu Lys Asp
 2130 2135 2140
 Ile Lys Val Phe Asn Arg Asp Arg Gln Lys Gly Thr Asn Val Cys Ala
 145 2150 2155 2160
 Val Ala Asn Gly Gly Cys Gln Gln Leu Cys Leu Tyr Arg Gly Arg Gly
 2165 2170 2175
 Gln Arg Ala Cys Ala Cys Ala His Gly Met Leu Ala Glu Asp Gly Ala
 2180 2185 2190
 Ser Cys Arg Glu Tyr Ala Gly Tyr Leu Leu Tyr Ser Glu Arg Thr Ile
 2195 2200 2205
 Leu Lys Ser Ile His Leu Ser Asp Glu Arg Asn Leu Asn Ala Pro Val
 2210 2215 2220
 Gln Pro Phe Glu Asp Pro Glu His Met Lys Asn Val Ile Ala Leu Ala
 225 2230 2235 2240
 Phe Asp Tyr Arg Ala Gly Thr Ser Pro Gly Thr Pro Asn Arg Ile Phe
 2245 2250 2255
 Phe Ser Asp Ile His Phe Gly Asn Ile Gln Gln Ile Asn Asp Asp Gly
 2260 2265 2270
 Ser Arg Arg Ile Thr Ile Val Glu Asn Val Gly Ser Val Glu Gly Leu
 2275 2280 2285
 Ala Tyr His Arg Gly Trp Asp Thr Leu Tyr Trp Thr Ser Tyr Thr Thr
 2290 2295 2300
 Ser Thr Ile Thr Arg His Thr Val Asp Gln Thr Arg Pro Gly Ala Phe
 305 2310 2315 2320
 Glu Arg Glu Thr Val Ile Thr Met Ser Gly Asp Asp His Pro Arg Ala
 2325 2330 2335

FIG. 14B

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Phe Val Leu Asp Glu Cys Gln Asn Leu Met Phe Trp Thr Asn Trp Asn
 2340 2345 2350
 Glu Gln His Pro Ser Ile Met Arg Ala Ala Leu Ser Gly Ala Asn Val
 2355 2360 2365
 Leu Thr Leu Ile Glu Lys Asp Ile Arg Thr Pro Asn Gly Leu Ala Ile
 2370 2375 2380
 Asp His Arg Ala Glu Lys Leu Tyr Phe Ser Asp Ala Thr Leu Asp Lys
 385 2390 2395 2400
 Ile Glu Arg Cys Glu Tyr Asp Gly Ser His Arg Tyr Val Ile Leu Lys
 2405 2410 2415
 Ser Glu Pro Val His Pro Phe Gly Leu Ala Val Tyr Gly Glu His Ile
 2420 2425 2430
 Phe Trp Thr Asp Trp Val Arg Arg Ala Val Gln Arg Ala Asn Lys His
 2435 2440 2445
 Val Gly Ser Asn Met Lys Leu Leu Arg Val Asp Ile Pro Gln Gln Pro
 2450 2455 2460
 Met Gly Ile Ile Ala Val Ala Asn Asp Thr Asn Ser Cys Glu Leu Ser
 465 2470 2475 2480
 Pro Cys Arg Ile Asn Asn Gly Gly Cys Gln Asp Leu Cys Leu Leu Thr
 2485 2490 2495
 His Gln Gly His Val Asn Cys Ser Cys Arg Gly Gly Arg Ile Leu Gln
 2500 2505 2510
 Asp Asp Leu Thr Cys Arg Ala Val Asn Ser Ser Cys Arg Ala Gln Asp
 2515 2520 2525
 Glu Phe Glu Cys Ala Asn Gly Glu Cys Ile Asn Phe Ser Leu Thr Cys
 2530 2535 2540
 Asp Gly Val Pro His Cys Lys Asp Lys Ser Asp Glu Lys Pro Ser Tyr
 545 2550 2555 2560
 Cys Asn Ser Arg Arg Cys Lys Lys Thr Phe Arg Gln Cys Ser Asn Gly
 2565 2570 2575
 Arg Cys Val Ser Asn Met Leu Trp Cys Asn Gly Ala Asp Asp Cys Gly
 2580 2585 2590
 Asp Gly Ser Asp Glu Ile Pro Cys Asn Lys Thr Ala Cys Gly Val Gly
 2595 2600 2605
 Glu Phe Arg Cys Arg Asp Gly Thr Cys Ile Gly Asn Ser Ser Arg Cys
 2610 2615 2620
 Asn Gln Phe Val Asp Cys Glu Asp Ala Ser Asp Glu Met Asn Cys Ser
 625 2630 2635 2640
 Ala Thr Asp Cys Ser Ser Tyr Phe Arg Leu Gly Val Lys Gly Val Leu
 2645 2650 2655
 Phe Gln Pro Cys Glu Arg Thr Ser Leu Cys Tyr Ala Pro Ser Trp Val
 2660 2665 2670
 Cys Asp Gly Ala Asn Asp Cys Gly Asp Tyr Ser Asp Glu Arg Asp Cys
 2675 2680 2685
 Pro Gly Val Lys Arg Pro Arg Cys Pro Leu Asn Tyr Phe Ala Cys Pro
 2690 2695 2700
 Ser Gly Arg Cys Ile Pro Met Ser Trp Thr Cys Asp Lys Glu Asp Asp
 705 2710 2715 2720
 Cys Glu His Gly Glu Asp Glu Thr His Cys Asn Lys Phe Cys Ser Glu
 2725 2730 2735
 Ala Gln Phe Glu Cys Gln Asn His Arg Cys Ile Ser Lys Gln Trp Leu
 2740 2745 2750
 Cys Asp Gly Ser Asp Asp Cys Gly Asp Gly Ser Asp Glu Ala Ala His
 2755 2760 2765
 Cys Glu Gly Lys Thr Cys Gly Pro Ser Ser Phe Ser Cys Pro Gly Thr
 2770 2775 2780
 His Val Cys Val Pro Glu Arg Trp Leu Cys Asp Gly Asp Lys Asp Cys
 785 2790 2795 2800
 Ala Asp Gly Ala Asp Glu Ser Ile Ala Ala Gly Cys Leu Tyr Asn Ser

FIG. 14B

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2805										2810					2815					
Thr	Cys	Asp	Asp	Arg	Glu	Phe	Met	Cys	Gln	Asn	Arg	Gln	Cys	Ile	Pro					
2820										2825					2830					
Lys	His	Phe	Val	Cys	Asp	His	Asp	Arg	Asp	Cys	Ala	Asp	Gly	Ser	Asp					
2835										2840					2845					
Glu	Ser	Pro	Glu	Cys	Glu	Tyr	Pro	Thr	Cys	Gly	Pro	Ser	Glu	Phe	Arg					
2850										2855					2860					
Cys	Ala	Asn	Gly	Arg	Cys	Leu	Ser	Ser	Arg	Gln	Trp	Glu	Cys	Asp	Gly					
865	2870										2875					2880				
Glu	Asn	Asp	Cys	His	Asp	Gln	Ser	Asp	Glu	Ala	Pro	Lys	Asn	Pro	His					
2885										2890					2895					
Cys	Thr	Ser	Pro	Glu	His	Lys	Cys	Asn	Ala	Ser	Ser	Gln	Phe	Leu	Cys					
2900										2905					2910					
Ser	Ser	Gly	Arg	Cys	Val	Ala	Glu	Ala	Leu	Leu	Cys	Asn	Gly	Gln	Asp					
2915										2920					2925					
Asp	Cys	Gly	Asp	Ser	Ser	Asp	Glu	Arg	Gly	Cys	His	Ile	Asn	Glu	Cys					
2930										2935					2940					
Leu	Ser	Arg	Lys	Leu	Ser	Gly	Cys	Ser	Gln	Asp	Cys	Glu	Asp	Leu	Lys					
945	2950										2955					2960				
Ile	Gly	Phe	Lys	Cys	Arg	Cys	Arg	Pro	Gly	Phe	Arg	Leu	Lys	Asp	Asp					
2965										2970					2975					
Gly	Arg	Thr	Cys	Ala	Asp	Val	Asp	Glu	Cys	Ser	Thr	Thr	Phe	Pro	Cys					
2980										2985					2990					
Ser	Gln	Arg	Cys	Ile	Asn	Thr	His	Gly	Ser	Tyr	Lys	Cys	Leu	Cys	Val					
2995										3000					3005					
Glu	Gly	Tyr	Ala	Pro	Arg	Gly	Gly	Asp	Pro	His	Ser	Cys	Lys	Ala	Val					
3010										3015					3020					
Thr	Asp	Glu	Glu	Pro	Phe	Leu	Ile	Phe	Ala	Asn	Arg	Tyr	Tyr	Leu	Arg					
025	3030										3035					3040				
Lys	Leu	Asn	Leu	Asp	Gly	Ser	Asn	Tyr	Thr	Leu	Leu	Lys	Gln	Gly	Leu					
3045										3050					3055					
Asn	Asn	Ala	Val	Ala	Leu	Asp	Phe	Asp	Tyr	Arg	Glu	Gln	Met	Ile	Tyr					
3060										3065					3070					
Trp	Thr	Asp	Val	Thr	Thr	Gln	Gly	Ser	Met	Ile	Arg	Arg	Met	His	Leu					
3075										3080					3085					
Asn	Gly	Ser	Asn	Val	Gln	Val	Leu	His	Arg	Thr	Gly	Leu	Ser	Asn	Pro					
3090										3095					3100					
Asp	Gly	Leu	Ala	Val	Asp	Trp	Val	Gly	Gly	Asn	Leu	Tyr	Trp	Cys	Asp					
105	3110										3115					3120				
Lys	Gly	Arg	Asp	Thr	Ile	Glu	Val	Ser	Lys	Leu	Asn	Gly	Ala	Tyr	Arg					
3125										3130					3135					
Thr	Val	Leu	Val	Ser	Ser	Gly	Leu	Arg	Glu	Pro	Arg	Ala	Leu	Val	Val					
3140										3145					3150					
Asp	Val	Gln	Asn	Gly	Tyr	Leu	Tyr	Trp	Thr	Asp	Trp	Gly	Asp	His	Ser					
3155										3160					3165					
Leu	Ile	Gly	Arg	Ile	Gly	Met	Asp	Gly	Ser	Ser	Arg	Ser	Val	Ile	Val					
3170										3175					3180					
Asp	Thr	Lys	Ile	Thr	Trp	Pro	Asn	Gly	Leu	Thr	Leu	Asp	Tyr	Val	Thr					
185	3190										3195					3200				
Glu	Arg	Ile	Tyr	Trp	Ala	Asp	Ala	Arg	Glu	Asp	Tyr	Ile	Glu	Phe	Ala					
3205										3210					3215					
Ser	Leu	Asp	Gly	Ser	Asn	Arg	His	Val	Val	Leu	Ser</									

FIG. 14B

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Phe His Ala Leu Arg Gln Pro Asp Val Pro Asn His Pro Cys Lys Val
 3285 3290 3295
 Asn Asn Gly Gly Cys Ser Asn Leu Cys Leu Leu Ser Pro Gly Gly Gly
 3300 3305 3310
 His Lys Cys Ala Cys Pro Thr Asn Phe Tyr Leu Gly Ser Asp Gly Arg
 3315 3320 3325
 Thr Cys Val Ser Asn Cys Thr Ala Ser Gln Phe Val Cys Lys Asn Asp
 3330 3335 3340
 Lys Cys Ile Pro Phe Trp Trp Lys Cys Asp Thr Glu Asp Asp Cys Gly
 345 3350 3355 3360
 Asp His Ser Asp Glu Pro Pro Asp Cys Pro Glu Phe Lys Cys Arg Pro
 3365 3370 3375
 Gly Gln Phe Gln Cys Ser Thr Gly Ile Cys Thr Asn Pro Ala Phe Ile
 3380 3385 3390
 Cys Asp Gly Asp Asn Asp Cys Gln Asp Asn Ser Asp Glu Ala Asn Cys
 3395 3400 3405
 Asp Ile His Val Cys Leu Pro Ser Gln Phe Lys Cys Thr Asn Thr Asn
 3410 3415 3420
 Arg Cys Ile Pro Gly Ile Phe Arg Cys Asn Gly Gln Asp Asn Cys Gly
 425 3430 3435 3440
 Asp Gly Glu Asp Glu Arg Asp Cys Pro Glu Val Thr Cys Ala Pro Asn
 3445 3450 3455
 Gln Phe Gln Cys Ser Ile Thr Lys Arg Cys Ile Pro Arg Val Trp Val
 3460 3465 3470
 Cys Asp Arg Asp Asn Asp Cys Val Asp Gly Ser Asp Glu Pro Ala Asn
 3475 3480 3485
 Cys Thr Gln Met Thr Cys Gly Val Asp Glu Phe Arg Cys Lys Asp Ser
 3490 3495 3500
 Gly Arg Cys Ile Pro Ala Arg Trp Lys Cys Asp Gly Glu Asp Asp Cys
 505 3510 3515 3520
 Gly Asp Gly Ser Asp Glu Pro Lys Glu Glu Cys Asp Glu Arg Thr Cys
 3525 3530 3535
 Glu Pro Tyr Gln Phe Arg Cys Lys Asn Asn Arg Cys Val Pro Gly Arg
 3540 3545 3550
 Trp Gln Cys Asp Tyr Asp Asn Asp Cys Gly Asp Asn Ser Asp Glu Glu
 3555 3560 3565
 Ser Cys Thr Pro Arg Pro Cys Ser Glu Ser Glu Phe Ser Cys Ala Asn
 3570 3575 3580
 Gly Arg Cys Ile Ala Gly Arg Trp Lys Cys Asp Gly Asp His Asp Cys
 585 3590 3595 3600
 Ala Asp Gly Ser Asp Glu Lys Asp Cys Thr Pro Arg Cys Asp Met Asp
 3605 3610 3615
 Gln Phe Gln Cys Lys Ser Gly His Cys Ile Pro Leu Arg Trp Arg Cys
 3620 3625 3630
 Asp Ala Asp Ala Asp Cys Met Asp Gly Ser Asp Glu Glu Ala Cys Gly
 3635 3640 3645
 Thr Gly Val Arg Thr Cys Pro Leu Asp Glu Phe Gln Cys Asn Asn Thr
 3650 3655 3660
 Leu Cys Lys Pro Leu Ala Trp Lys Cys Asp Gly Glu Asp Asp Cys Gly
 665 3670 3675 3680
 Asp Asn Ser Asp Glu Asn Pro Glu Glu Cys Ala Arg Phe Val Cys Pro
 3685 3690 3695
 Pro Asn Arg Pro Phe Arg Cys Lys Asn Asp Arg Val Cys Leu Trp Ile
 3700 3705 3710
 Gly Arg Gln Cys Asp Gly Thr Asp Asn Cys Gly Asp Gly Thr Asp Glu
 3715 3720 3725
 Glu Asp Cys Glu Pro Pro Thr Ala His Thr Thr His Cys Lys Asp Lys
 3730 3735 3740
 Lys Glu Phe Leu Cys Arg Asn Gln Arg Cys Leu Ser Ser Ser Leu Arg

FIG. 14B

745 3750 3755 3760
 Cys Asn Met Phe Asp Asp Cys Gly Asp Gly Ser Asp Glu Glu Asp Cys
 3765 3770 3775
 Ser Ile Asp Pro Lys Leu Thr Ser Cys Ala Thr Asn Ala Ser Ile Cys
 3780 3785 3790
 Gly Asp Glu Ala Arg Cys Val Arg Thr Glu Lys Ala Ala Tyr Cys Ala
 3795 3800 3805
 Cys Arg Ser Gly Phe His Thr Val Pro Gly Gln Pro Gly Cys Gln Asp
 3810 3815 3820
 Ile Asn Glu Cys Leu Arg Phe Gly Thr Cys Ser Gln Leu Cys Asn Asn
 825 3830 3835 3840
 Thr Lys Gly Gly His Leu Cys Ser Cys Ala Arg Asn Phe Met Lys Thr
 3845 3850 3855
 His Asn Thr Cys Lys Ala Glu Gly Ser Glu Tyr Gln Val Leu Tyr Ile
 3860 3865 3870
 Ala Asp Asp Asn Glu Ile Arg Ser Leu Phe Pro Gly His Pro His Ser
 3875 3880 3885
 Ala Tyr Glu Gln Ala Phe Gln Gly Asp Glu Ser Val Arg Ile Asp Ala
 3890 3895 3900
 Met Asp Val His Val Lys Ala Gly Arg Val Tyr Trp Thr Asn Trp His
 905 3910 3915 3920
 Thr Gly Thr Ile Ser Tyr Arg Ser Leu Pro Pro Ala Ala Pro Pro Thr
 3925 3930 3935
 Thr Ser Asn Arg His Arg Arg Gln Ile Asp Arg Gly Val Thr His Leu
 3940 3945 3950
 Asn Ile Ser Gly Leu Lys Met Pro Arg Gly Ile Ala Ile Asp Trp Val
 3955 3960 3965
 Ala Gly Asn Val Tyr Trp Thr Asp Ser Gly Arg Asp Val Ile Glu Val
 3970 3975 3980
 Ala Gln Met Lys Gly Glu Asn Arg Lys Thr Leu Ile Ser Gly Met Ile
 985 3990 3995 4000
 Asp Glu Pro His Ala Ile Val Val Asp Pro Leu Arg Gly Thr Met Tyr
 4005 4010 4015
 Trp Ser Asp Trp Gly Asn His Pro Lys Ile Glu Thr Ala Ala Met Asp
 4020 4025 4030
 Gly Thr Leu Arg Glu Thr Leu Val Gln Asp Asn Ile Gln Trp Pro Thr
 4035 4040 4045
 Gly Leu Ala Val Asp Tyr His Asn Glu Arg Leu Tyr Trp Ala Asp Ala
 4050 4055 4060
 Lys Leu Ser Val Ile Gly Ser Ile Arg Leu Asn Gly Thr Asp Pro Ile
 065 4070 4075 4080
 Val Ala Ala Asp Ser Lys Arg Gly Leu Ser His Pro Phe Ser Ile Asp
 4085 4090 4095
 Val Phe Glu Asp Tyr Ile Tyr Gly Val Thr Tyr Ile Asn Asn Arg Val
 4100 4105 4110
 Phe Lys Ile His Lys Phe Gly His Ser Pro Leu Val Asn Leu Thr Gly
 4115 4120 4125
 Gly Leu Ser His Ala Ser Asp Val Val Leu Tyr His Gln His Lys Gln
 4130 4135 4140
 Pro Glu Val Thr Asn Pro Cys Asp Arg Lys Lys Cys Glu Trp Leu Cys
 145 4150 4155 4160
 Leu Leu Ser Pro Ser Gly Pro Val Cys Thr Cys Pro Asn Gly Lys Arg
 4165 4170 4175
 Leu Asp Asn Gly Thr Cys Val Pro Val Pro Ser Pro Thr Pro Pro
 4180 4185 4190
 Asp Ala Pro Arg Pro Gly Thr Cys Asn Leu Gln Cys Phe Asn Gly Gly
 4195 4200 4205
 Ser Cys Phe Leu Asn Ala Arg Arg Gln Pro Lys Cys Arg Cys Gln Pro
 4210 4215 4220

FIG. 14B

Arg Tyr Thr Gly Asp Lys Cys Glu Leu Asp Gln Cys Trp Glu His Cys
 225 4230 4235 4240
 Arg Asn Gly Gly Thr Cys Ala Ala Ser Pro Ser Gly Met Pro Thr Cys
 4245 4250 4255
 Arg Cys Pro Thr Gly Phe Thr Gly Pro Lys Cys Thr Gln Gln Val Cys
 4260 4265 4270
 Ala Gly Tyr Cys Ala Asn Asn Ser Thr Cys Thr Val Asn Gln Gly Asn
 4275 4280 4285
 Gln Pro Gln Cys Arg Cys Leu Pro Gly Phe Leu Gly Asp Arg Cys Gln
 4290 4295 4300
 Tyr Arg Gln Cys Ser Gly Tyr Cys Glu Asn Phe Gly Thr Cys Gln Met
 305 4310 4315 4320
 Ala Ala Asp Gly Ser Arg Gln Cys Arg Cys Thr Ala Tyr Phe Glu Gly
 4325 4330 4335
 Ser Arg Cys Glu Val Asn Lys Cys Ser Arg Cys Leu Glu Gly Ala Cys
 4340 4345 4350
 Val Val Asn Lys Gln Ser Gly Asp Val Thr Cys Asn Cys Thr Asp Gly
 4355 4360 4365
 Arg Val Ala Pro Ser Cys Leu Thr Cys Val Gly His Cys Ser Asn Gly
 4370 4375 4380
 Gly Ser Cys Thr Met Asn Ser Lys Met Met Pro Glu Cys Gln Cys Pro
 385 4390 4395 4400
 Pro His Met Thr Gly Pro Arg Cys Glu Glu His Val Phe Ser Gln Gln
 4405 4410 4415
 Gln Pro Gly His Ile Ala Ser Ile Leu Ile Pro Leu Leu Leu Leu Leu
 4420 4425 4430
 Leu Leu Val Leu Val Ala Gly Val Val Phe Trp Tyr Lys Arg Arg Val
 4435 4440 4445
 Gln Gly Ala Lys Gly Phe Gln His Gln Arg Met Thr Asn Gly Ala Met
 4450 4455 4460
 Asn Val Glu Ile Gly Asn Pro Thr Tyr Lys Met Tyr Glu Gly Gly Glu
 465 4470 4475 4480
 Pro Asp Asp Val Gly Gly Leu Leu Asp Ala Asp Phe Ala Leu Asp Pro
 4485 4490 4495
 Asp Lys Pro Thr Asn Phe Thr Asn Pro Val Tyr Ala Thr Leu Tyr Met
 4500 4505 4510
 Gly Gly His Gly Ser Arg His Ser Leu Ala Ser Thr Asp Glu Lys Arg
 4515 4520 4525
 Glu Leu Leu Gly Arg Gly Pro Glu Asp Glu Ile Gly Asp Pro Leu Ala
 4530 4535 4540

FIG. 14B